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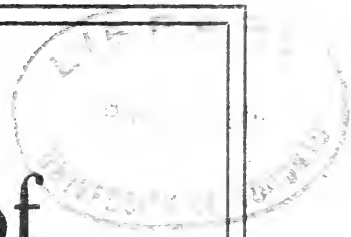



# The Journal of Cutaneous Diseases

Including Syphilis

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AMERICAN DERMATOLOGICAL ASSOCIATION

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GEORGE M. MACKEE, M.D., New York, Editor
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THE JOURNAL OF CUTANEOUS DISEASES

VOL. XXXVI—NO. 1 JANUARY, 1918 WHOLE NO. 422

## Original Communications

### TWO CASES OF THE BOWEN TYPE OF EPITHELIOMA*

HOWARD MORROW, M.D., AND A. W. LEE, M.D.
SAN FRANCISCO

Drs. J. T. Bowen of Boston and J. Darier of Paris have reported six cases of unusual precancerous dermatoses with their individual histopathologic findings. Dr. Walter Heimann of New York has recently reported a seventh case. Two similar cases have come under our observation, and are being reported on account of the rarity of the disease, and because of the interesting results obtained from varied forms of treatment. Clinically, the disease has a characteristic appearance, especially when numerous lesions are present. When analogous lesions were compared, the microscopic picture was the same in both cases. Three types of visual manifestations of the malady were noted, namely, the nodule, the plaque, and the fungating growth. From a clinical standpoint these lesions can be summarized as follows: (1) The nodule corresponded to the ordinary rodent type, except that it showed little tendency to spread peripherally; the nodules appeared independent of and, in some instances, associated with the plaques, and in the cases here reported the nodule seems to have been the first sign of the disease to present itself. (2) The plaque is, as a rule, either round or ovoid in shape, deep red in color, the border being commonly sharply defined, although it does at times fade away into the normal color of the unaffected skin. It is to the plaque-form of the disease that the term "precancerous" is applicable; but since the plaque is only one variety of the clinical types of the affection, and inasmuch as the other types are characteristically epitheliomatous, it seems best, for the present at least, to class the malady under the name of "Bowen's type of epithelioma." The induration of the borders of the plaque cannot be appreciated unless the skin is made taut, and with

*Read before the Forty-First Annual Meeting of the American Dermatological Association, Cincinnati, May 24-26, 1917. Received for publication, June 25, 1917.

this manipulation a slight rolling of the border is occasionally perceptible. Spontaneous clearing has occurred in the center of the plaques, in the way of cicatrization; but, without treatment, no form of the disease has healed permanently. (3) The fungating growth is indistinguishable from a papillary carcinoma, and does not appear until the disease is of long standing.

## REPORT OF CASES

CASE 1.—*History.*—A general summary of the case of Mrs. W. is as follows: Her parents died at an advanced age, cause unknown. Two brothers and one sister succumbed to a disease manifested in the main by pulmonary signs and symptoms, and called consumption at that time.

The patient, a multiparoous woman, aged 57 years, has spent most of her life in California, about the San Francisco Bay District, now resident in San José. During childhood she had varicella, pertussis, pneumonia, and some intestinal disturbances which she called "cramps." Later diseases were measles at 30 and typhoid fever at 40 years of age. She has suffered no serious accidents, and, prior to her entrance into the hospital, had undergone no surgical operations. Her menstrual periods began at 18, and were irregular and painful until the birth of her first child. Menstruation ceased at 42. She has been pregnant ten times, four pregnancies terminating normally and six of them interrupted by spontaneous abortion. The living children have shown no cutaneous lesions which could be likened in any wise to those of the mother.

She has been under observation for a period of eight years. Repeated physical examinations, aside from her skin condition, have given practically negative results. Slight traces of albumin have been present in the urine at times; a moderate degree of leukocytosis has occasionally occurred, from 10,000 to 14,000, but the differential blood-count has remained normal. Negative Wassermann reactions have been constant findings in the blood serum.

She entered the University of California Hospital in August, 1909. Her extreme obesity made it almost impossible for her to walk unaided. The adiposity of the patient is mentioned merely to emphasize the fact that her pathologic skin condition has not reduced her fat-storing ability.

*Examination.*—To regard the case in its detailed presentation, three types of dermal pathologic changes were present. There were: (*a*) what has been styled the plaque; (*b*) a nodule, and (*c*) a fungating neoplasm. From a clinical viewpoint they are taken in the order named.

The Plaque: It varied in size from that of a pin-head to that of an adult palm. Usually of a deep red color, but occasionally tinged with yellow. As a rule oval in configuration; still, an irregular outline was noted in a few forms of this type of the disease. The plaques were present in greatest number on the anterior and posterior portions of the trunk. Their borders were usually sharply defined, but now and then they faded away into the normal color of the skin. Nearly all of the plaques showed a certain amount of furfuraceus scaling. On palpation induration could be sensed only at the borders, and at that only in a moderate degree. When pressure was exercised on these plaques, such as with vestimental or posture conditions, ulceration had appeared. Crust formation every now and then presented itself in the center or at the border of these lesions. Central spontaneous clearing of the plaques was not an infrequent finding, however, and at no time have the plaques entirely disappeared without treatment.

The Nodule: This type of lesion was probably the first to appear, and was confined chiefly to the face. Most of the nodules progressed slowly and showed little tendency to ulcerate. They were firm to the touch, waxy in color, with a shining surface and many of them presented telangiectases.

Figure 1

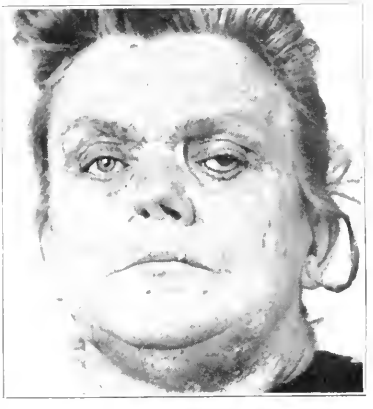

Figure 2

Fig. 1 (Case 1).—Photograph taken in 1907, at the time of entrance into hospital.

Fig. 2 (Case 1).—Photograph taken in 1908, showing improvement under treatment.

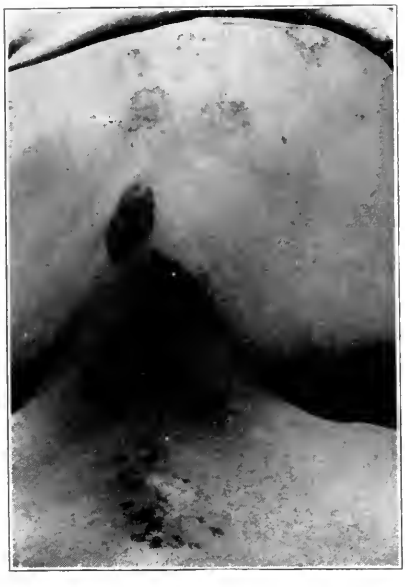

Figure 3

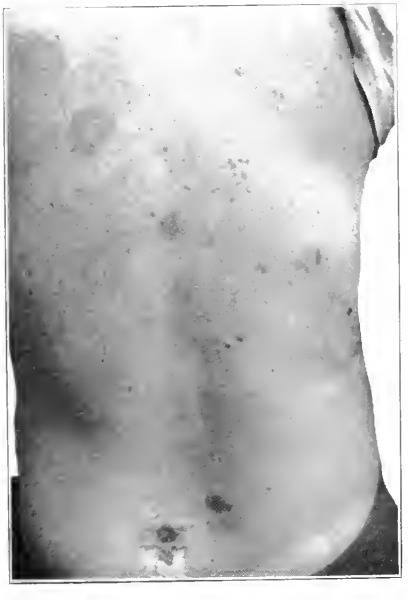

Figure 4

Fig. 3 (Case 1).—Present condition of patient's back, 1917.

Fig. 4 (Case 2).—Before treatment, 1917.

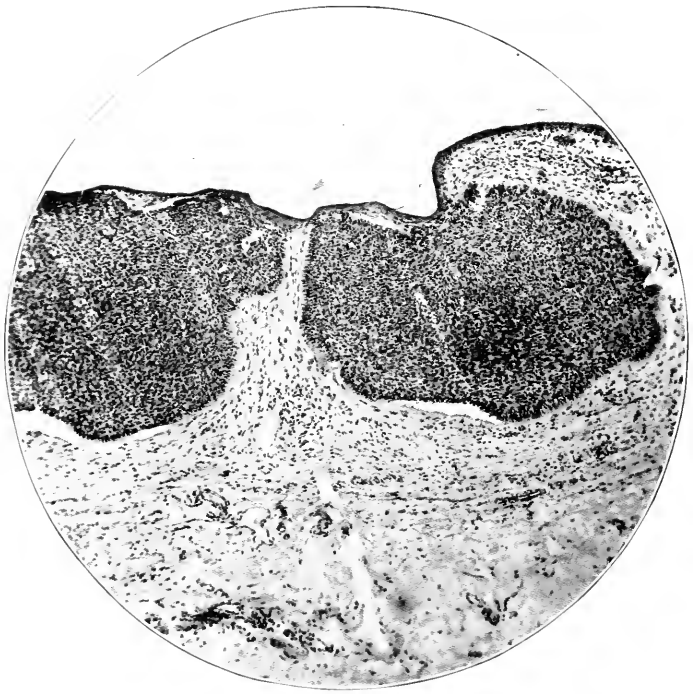

Fig. 5 (Case 1).—Low power view of section through nodule.

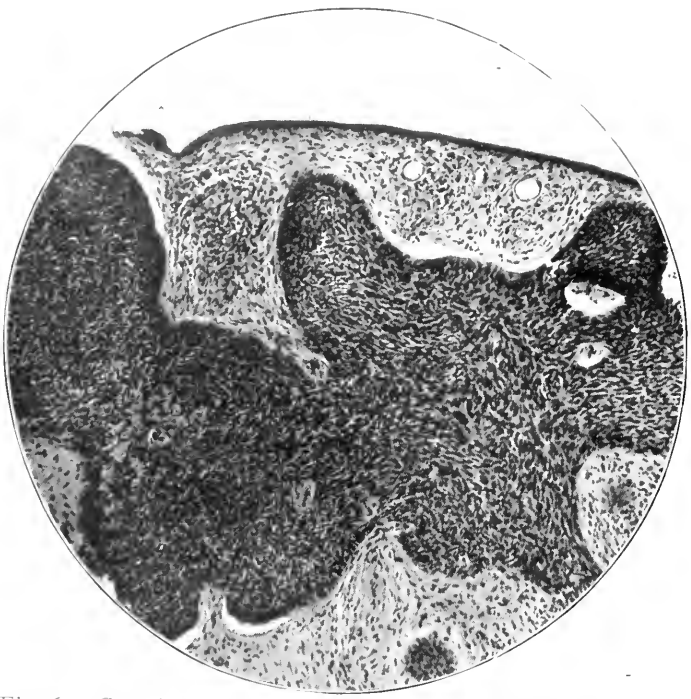

Fig. 6 (Case 1).—Higher power view of section through nodule.

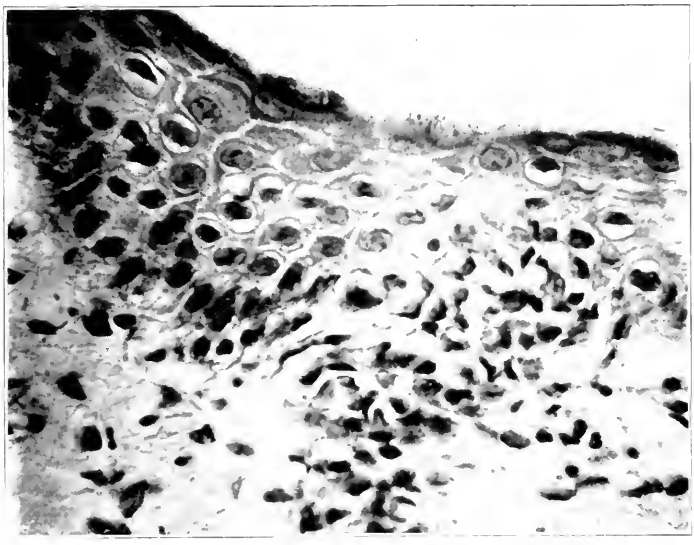

Fig. 7 (Case 2).—Oil immersion detail from epidermis, showing columnar arrangement of cells, irregularity of cells and nuclei, and a few vacuolated cells.

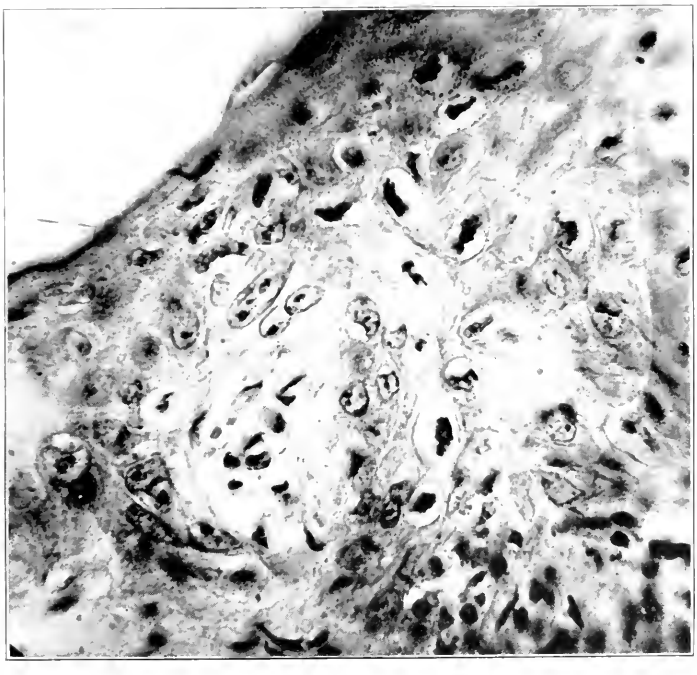

Fig. 8 (Case 1).—Oil immersion detail from epidermis, showing irregularity in size and shape of cells and nuclei, plurality of nuclei in single cells, and a number of vacuolated cells.

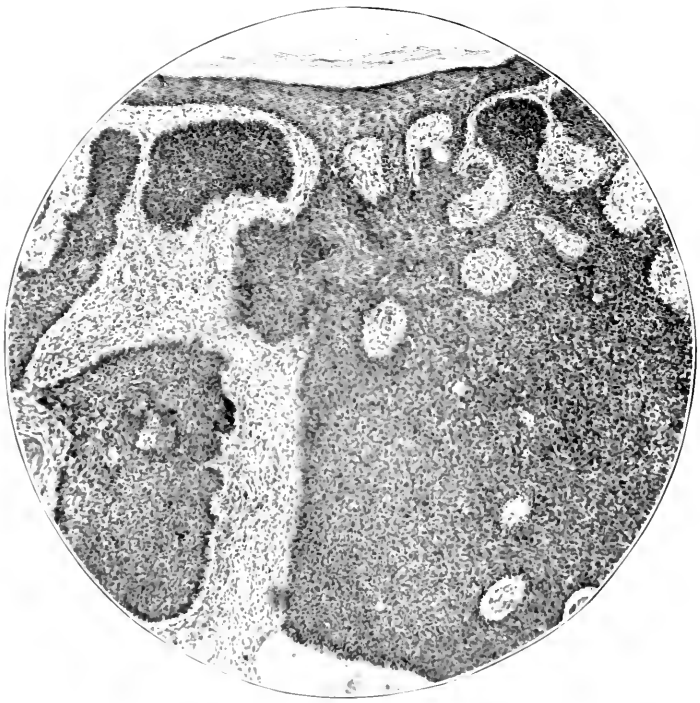

Fig. 9.—(Case 2).—Low power view of section through nodule.

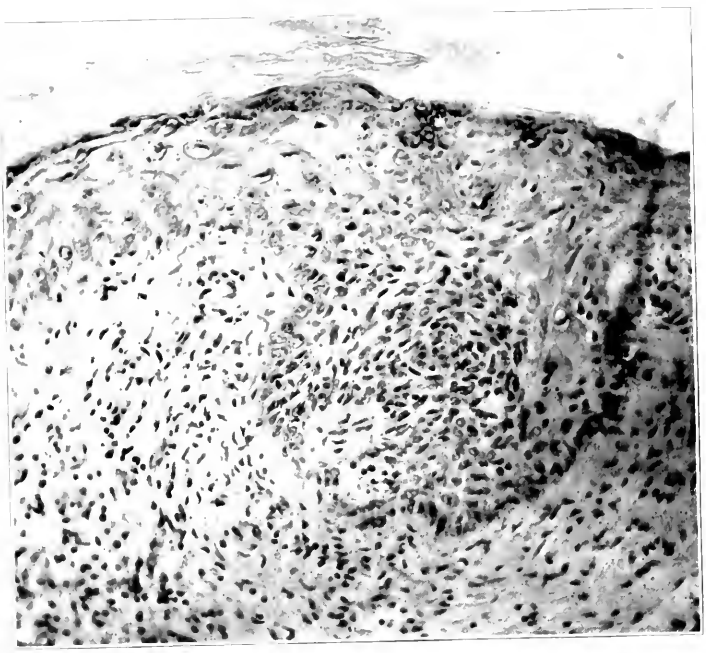

Fig. 10.(Case 2).—Low power view showing hypertrophy of the rete into the corium, irregularity in size and shape of cells and nuclei, and exaggerated desquamation of the stratum corneum.

The Fungating Growth: The fungating variety of lesion was best developed in the groin, about the umbilicus, and on the scalp. It varied in size from that of an almond to that of a chicken egg. These growths were deep red in color, bled freely on the slightest trauma, and in the flexures macerated easily, giving rise to a nauseating odor. On palpation of their borders, deep-seated infiltration was not appreciable, the tendency of the growth being outward and not toward the deeper structures.

Notwithstanding the great amount of cutaneous involvement by these various forms of epitheliomatous new-growth, the subcutaneous lymph-nodes have never been palpably enlarged.

### Histopathology

Biopsies were made at different periods during the years that the patient has been under observation. These were taken from every type of lesion, and microscopic examination gave the ensuing findings:

*The Plaque.*—In this the superficial layers of the epidermis were in part intact, the stratum granulosum being usually discernable. There was a marked hypertrophy of the rete Malpighii, taking the form of a sharply defined down-growth. This down-growth was never so extensive in the plaques as in the nodular and fungating lesions. The superficial layers of the rete presented numerous atypical cellular changes, the most noteworthy of which was that of vacuolization of some of the cells. Many of these vacuolated cells contained nuclei which were morphologically and tinctorially normal and surrounded by distinct cell-membranes. Vacuolated cells could be found which contained two or more nuclei. In some areas cell-membranes were present devoid of both nuclei and protoplasm. Every now and then two or more cells in the rete were seen to be arranged in rows, closely resembling grains of corn on the cob. The corium showed changes from the normal state, chiefly evidenced by a dilatation of the blood and lymph vessels, an increase in the connective tissue elements, and by diffuse round-cell and plasma-cell infiltration, as well as varying degrees of edema. These pathologic features in the corium persisted in all three types of lesions, but were most evident in the fungating variety.

*The Nodule.*—Microscopically this did not differ from the basal-cell type of epithelioma.

*The Fungating Growth.*—The outermost layers of the epidermis were here entirely wanting, and the tumor masses consisted throughout of a kind of cell indistinguishable from that which composes the normal rete.

### Treatment

The treatment has consisted of excision; curettage with subsequent chemical cauterization, such as by the use of trichloracetic and chromic acids, and massive doses of the roentgen ray and radium. Except for the growths in the flexures, there has been little tendency toward recurrence after any form of treatment, if thoroughly carried out. Inasmuch as the fungating type of neoplasm was mainly removed by surgical procedures, it is impossible to say what the effect of radium might have been on it. It is certain, however, that the plaques and nodules would have disappeared rapidly under its use.

### Present Condition

General health unimpaired, no loss of weight, and, aside from her skin, physical and laboratory examinations are negative. Covering a palm-sized area over the lower back are fifteen nodules, the size of a lentil or larger, super-

ficially infiltrated, of an apple-jelly color, and a few of them have become confluent. In the center of the confluent region there is a tight crust about as large as a lima bean. Six inches above this nodular area there are two oval plaques which have sharp borders, and are as large as a turkey egg. Their borders are not perceptibly infiltrated. They are quite dark red in color and a trifle scaly. In the center of these plaques there is atrophic tissue from apparent healing. A similar plaque is present on the right shoulder, adjoining an old scar. Crusts appear on this latter lesion, evidently covering superficial ulcerations. On the same shoulder there is a lima bean sized nodule which does not differ in any respect from the rodent type. On the chest and abdomen there are about two dozen papular processes of the size of a millet seed or lentil, of a deep red-brown color, grouped, and a few of them have coalesced. In the left groin there are two lesions which have never completely healed, despite various forms of treatment. A red bean-sized, infiltrated ulcer presents at the upper end of the scar which has resulted from the various forms of therapy employed in the past, while a larger one persists at the lower end. Both ulcers are surrounded by infiltrated, waxy borders, and are distinctly epitheliomatous. At the time of writing this article these ulcers are healing under radium therapy.

In addition to these active forms of her disease the patient is literally covered with large and small cicatrices, marking the sites of plaques, nodules and fungating neoplasms which have healed, following manifold forms of treatment.

CASE 2.—*History.*—Mr. S., aged 52, was in good general condition. He gave a mild alcoholic history, but negative family history. On physical examination, aside from the skin lesions, nothing was found except a slightly enlarged prostate and some dilated venules in the hypogastrium. The patient gave the history of two attacks of renal colic accompanied by the passage of calculi. Subsequently he had hematuria for two years after the passage of the stones, but this hematuria had not been attended with renal lithiasis.

The skin condition consisted of seven plaques on the shoulders and back, and a number of rodent-like nodules in the plaques and at other positions independent of them. The plaques which showed the nodules in intimate association with them were situated on the shoulders. The plaques were oval, deep red in color, all with furfuraceous scales, all with sharp borders, and without deep-seated infiltration. Some of the plaques showed faint cicatricial atrophy in the centers. The plaques had been present for two years, they had been increasing in size and number, and at no time had they showed any tendency toward spontaneous healing. There was no palpable adenopathy. In contrast to the case of Mrs. W., this patient presented several dozen seborrheic warts. The latter were most prevalent on the back and chest.

### HISTOPATHOLOGY

Biopsies were made from both the plaque and the nodule in the case of Mr. S. Microscopical examination of the tissues thus obtained gave the following findings:

*The Plaque.*—The epidermis was thickened at the border of the lesion and lessened as the central portions of the plaque were approached. Proliferation of the rete cells, with an intracellular edema, was not an uncommon finding. Many of these cells were irregular in shape, and a few of them were unusually large. Their nuclei in places were much larger than normal, stained deeply, and when two or more nuclei appeared in one cell-membrane, they seemed at times to be fused. Nuclear detritus, surrounded by a faintly defined membrane was apparent in some fields. Vacuolated cells were encountered in all the layers of the epidermis. In the outermost layer of the stratum corneum an isolated cell occasionally presented itself which had not undergone the natural

process of cornification. Generally the horny layer was thickened, and in several places raised up in a lamellated manner, the extent of which was in direct proportion to the amount of desquamation and edema. The papillary layer was edematous, its vessels were dilated, and it was diffusely infiltrated with round and plasma cells.

*The Nodule.*—Sections from a nodule showed a deeper infiltration of the rete cells into the underlying structures, and with a tendency for the cells about the borders of these down-growths to arrange themselves in a columnar formation. The rete cells in the nodule were more regular in size, and did not show as many nuclear changes as appeared in corresponding areas of the plaque. In other words, they closely resembled in a structural sense the cells composing an ordinary basocellular epithelioma.

TREATMENT

In this case the treatment has consisted of massive doses of the roentgen ray and radium. The most satisfactory method has been the use of radium, the plaques and nodules both clearing under its application and leaving only faint scars. Undoubtedly the same results could have been accomplished by excision or by curettage followed by cauterization, but in that case the scars would have been very much more marked and the treatment more painful and disagreeable.

DISCUSSION

DR. HARTZELL said that in regard to the first photograph shown of the face, he thought there could be little doubt that it represented a very typical case that had been described under a variety of names, multiple benign cystic epithelioma and tricho-epithelioma and the histologic slides simply proved the clinical diagnosis.

As to the case in which there were patches on the back, that represented a different sort of thing altogether. Many of these patches resembled very much senile keratosis with seborrhea added. He had had under observation for twenty years a man who had had a dozen such patches on various parts of his trunk and face, and these sooner or later became epithelioma. This latter condition was probably related to that described by Bowen and later by Darier as "les keratoses precancereuses."

DR. HEIMANN said he was glad Dr. Morrow had brought this subject before the Society. The term precancerous in the sense in which we used it, indicating that a thing will inevitably become cancerous, was a misnomer. We could offer the suggestion, based on clinical experience, that this type of lesion may undergo malignant change. It was just as absurd in his mind to call such a lesion precancerous as to call premycotic dermatosis premycotic. We could not consistently call it premycotic until mycosis had developed or until we recognized the presence of mycosis. Before that we had no means of judging actually whether certain lesions had become precancerous or not, and he should hesitate to make a statement of this sort before a mixed group of physicians because he thought it was essential, so far as the public was concerned, that they should be warned of the danger of certain lesions undergoing malignancy. Even among ourselves we knew the use of the term was not scientific, and he so expressed his views regarding the matter at a meeting of the American Society for the Control of Cancer, criticizing, in the same manner as Dr. Morrow had done, Dr. Bowen's conception. He had a letter from Dr. Bowen in which the latter thought his point of view was logical, and he would suggest calling a thing cancer, recognized as a clinical type first isolated by Dr. Bowen, dropping the term precancerous. If we thought precancerous lesions were

present, we could recognize their significance without stating the facts, because there were no facts to state.

DR. HARRIS said he was interested in the case of Dr. Morrow, as it represented an example of a number of cases he had observed. He had seen in Chicago in the last year, five different cases. Dr. Ormsby showed one before the Chicago Dermatological Society. Some of these cases were exhibited under the diagnosis of generalized Paget's disease in which we had from the beginning carcinomatous change. The wide distribution indicated that it might be nevoid in character. They represented a large number of basal-cell carcinoma in which we saw various stages in the moles shown by Dr. Morrow, with down-growth in the rete, in which we found typical basal-cell epithelioma and even large fungoid masses. Beginning very early with discoloration of the skin, there was slight infiltration, hardly demonstrable, and a brownish color, and that showed the stage mentioned by Dr. Morrow with existing down-growth in the rete. These lesions were carcinomatous from the beginning.

DR. MORROW said he did not think there could be any question but that these cases were carcinomatous from the start, and all that the plaques needed to become clinically carcinomatous was irritation to change a large plaque into a basal-cell carcinoma.

The reason he brought these cases up was to bring out a discussion in regard to classification. He thought that the designation "Bowen type," as he described it, will do temporarily at least. He did not see how we could classify these two cases under the head of multiple benign epithelioma. If we had a picture of the face taken, and nothing else, we would think of that disease, but after studying the microscopic sections, these sections did not show histologically the characteristics of multiple benign cystic epithelioma. The lesions on the body were apparently of one type, epitheliomatous from the start, some developing into plaques, some into nodules, and some into fungating epitheliomata. Notwithstanding the great amount of growth in the groin, around the umbilicus and in the axilla, and notwithstanding the great amount of papillary overgrowth in these flexures, up to the present time there had been no involvement of the neighboring lymphatic glands.

# ERYTHEMA MULTIFORME, ASSOCIATED WITH CUTANEOUS PIGMENTATION (MELANIN)

## CLINICAL AND PATHOLOGIC REPORT OF FIVE CASES*

E. W. ABRAMOWITZ, M.D.
NEW YORK

In the early history of dermatology various forms of erythema, acute exanthemata and inflammations of the skin were grouped together. Plenck, Sauvages and others, in the latter part of the eighteenth century, gave such a classification. Willan, in 1808, separated the acute exanthemata from the inflammations of the skin, due to external irritants and designated the various forms of erythema that occurred from internal causes as definite entities. His classification was a quantitative one, namely, roseola for a small-sized eruption, and erythema for a larger-sized eruption. He also used a qualifying adjective to indicate the particular etiologic or clinical features.

This classification was only short lived, for Hebra, recognizing its indefiniteness, pruned and consolidated the various forms of erythema and classified them according to the following arrangement: The general classification, polymorphous erythema, was subdivided into (1) urticaria; (2) roseola exudativa; (3) erythema nodosum, and (4) erythema exudativum or multiforme.

He called particular attention to group 4, in which most of the confusion existed and characterized all the different types of lesions that occurred as one and the same disease. Not desirous of adding any new names to the then already heavily burdened dermatological nomenclature, he used rather terms in use for his classification.

According to Hebra, the various forms of erythema, accompanied by exudation and characterized clinically by a polymorphous eruption in which papular, vesicular, bullous, nodular, edematous and hemorrhagic elements were present, belonged to erythema exudativum multiforme or erythema multiforme.[1]

Polotebnoff,[2] in 1887, disapproved of Hebra's classification of the erythemas for the reason that the absence of a visible exudation from an erythema did not preclude the presence of inflammation, also the concomitant presence of the other types of erythema in erythema nodosum showed the latter to be only another type of erythema multiforme. He claimed that all the various forms of erythema belonged to one group—inflammatory erythemas, and that the different etiolog-

* From the Department of Dermatology and Syphilology, Columbia University, College of Physicians and Surgeons. Received for publication, April 5, 1917.

1. Hebra: Diseases of the Skin. New Sydenham Society, 1866, p. 284.

2. Polotebnoff: Zur Lehre von den Erythem. Monatsh. f. prakt. Dermat., Hamburg, 1887, 6, p. 5.

ical factors acted with different degrees of intensity, producing a variety of lesions which were generically all alike.

Payne[3] also said that the different forms of erythema might be produced by one pathologic cause acting with different degrees of intensity. His division of the erythemas was as follows:

1. Toxic erythema; produced by drugs, poisons (bacterial, protein, etc.).

2. Symptomatic erythema; prodromal rashes in contagious diseases, purpura in rheumatism, roseola of cholera and influenza, erythema in uremia.

3. Idiopathic erythema; (a) eruption, simple or multiform, constituted the disease; no temperature, no general disturbance, rash faded early; (b) general constitutional disturbance; eruption might be painful, itching or burning; (c) eruption persistent, depended sometimes on successive crops, but in other cases the same lesion remained in the same spots during the whole duration of the disease.

This classification differed from that of Hebra in that it was not based on the degree of the inflammatory process (exudation) but on etiologic findings and clinical appearances alone. The fault with it was that, when the cause for the eruption was not found, it was an idiopathic erythema, simple or multiform; was the cause known it was a toxic or symptomatic erythema, although the eruptions might be identically alike.

On the other hand, Hebra's classification was also lacking in completeness, for how were we to classify an eruption that at one time was an urticaria, at another a purpura and at still another an erythema, when it occurred in the same patient? Sometimes all these three elements and more, might exist at the same time in the same individual.

Osler[4] cited such instances, and remarked that "what is needed in truth, is a dermatological Linnæus to bring order out of the chaos existing in the group of erythemas."

Dermatologists even disagreed as to how the pathologic processes originated in the skin. Neisser, Kreibich and Bruck (cited by Fordyce[5]), thought it was due to a stimulation of the vasomotor apparatus; Phillipson, Török, Gilchrist[6] and Samberger[7] thought the process

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3. Payne: Persistent Erythema and Its Treatment. Brit. Jour. Dermat., 1894, 6, p. 128.

4. Osler: Visceral Manifestations in Erythema Exudativum Multiforme. Am. Jour. Med. Sc., 1895, 110, p. 629. Osler: The Visceral Lesions of the Erythema Group. Brit. Jour. Dermat., 1900, 12, p. 227. Osler: Chronic Purpuric Erythema, with Enlarged Liver and Spleen and Groin Glands. JOUR. CUTAN. DIS., 1903, 21, p. 298.

5. Fordyce: Anaphylaxis. JOUR. CUTAN. DIS., 1912, 30, p. 128.

6. Gilchrist: Some Experimental Observations on the Histopathology of Urticaria Factitia. Internat. Dermat. Congress, New York, 1907, 2, p. 905.

7. Samberger: Die Entzündliche und Urtikarielle Hautreaktion. Dermat. Wchnschr., 1915, 61, No. 27, p. 763.

was due to the action of circulating toxins on the endothelial cells of the cutaneous vessels.

If one conceded that the pathological pictures of the entire erythema group were practically the same, differing only in the degree of the inflammatory process, and that they were the result of chemical poisons of various origins, acting in each case differently, perhaps some measure of definite classification could be attained.[8]

To the latest conception of the erythemas as being of an anaphylactic nature, Fordyce,[9] Anthony[9] and McBride and Shorer[10] offered another possibility, the further study of which might lead to a clearer conception of these skin diseases.

With this preliminary survey of the subject, the report of five cases classed as erythema multiforme is appended, the clinical appearances and the pathologic findings being of sufficient interest to merit making a record of them.

CASE 1.—*History.*—The patient, Mr. H. L., aged 32, was married and a native of Roumania. He had been living in the United States about fifteen years; was always a resident of New York City, with exception of two weeks in Birmingham, Ala., and three months in St. Louis. His occupation had been that of tin soldering; but for the past ten years he had been a book agent. His wife and two children were in good health. His father died of pneumonia when 34 years of age; his mother was alive and well, and 54 years old. One sister died in infancy—the cause of death was not known. His two brothers were in good health. There had been no rheumatism, tuberculosis or syphilis or any skin disease in the family. When a child he had measles, with a good recovery. Until the age of 15 years, he was always of a delicate constitution. Between the ages of 10 and 12 he used to suffer from nosebleed and headaches; these occurred every three to four days. He was told he had "poor blood." He had been in good health since, with the exception of occasional occipital headaches and nosebleed. He had been suffering from constipation for the past three or four years, but had no cramps. His appetite had always been good. He never smoked nor drank, and he denied taking any medicine except for constipation. His diet included sharp foods and delicacies. His first attack of gonorrhea was eight years ago and was cured. Three years ago he had another attack of gonorrhea, was treated for two months and had a good recovery. He denied syphilis.

*Physical Examination.*—The patient was of blond type, of vigorous constitution and good color. His weight was 137 pounds; his height was 5 feet and 4 inches. Scalp and eyebrows were normal. The pupils reacted normally; the conjunctivæ were clear. The nose and throat were negative. The teeth were examined by Dr. H. A. Kauffer and showed apical abscesses of the first upper left molar and right bicuspid. There was no enlargement of the lymphatic glands. The ears, mastoid, larynx and thyroid were negative. The heart and lungs revealed nothing abnormal; the pulse was normal; the blood pressure was, systolic, 110; diastolic, 70. The liver and spleen were not enlarged. Roentgen-ray examination of the abdomen revealed ptosis of the stomach and colon. The knee jerks were active. Sensations to hot and cold and touch were normal; no

8. Schamberg: An Inquiry Into the Etiology and Nature of the Toxic Erythemata. JOUR. CUTAN. DIS., 1904, 22, p. 461.

9. Anthony: Toxic Origin of Erythema Multiforme. JOUR. CUTAN. DIS., 1912, 30, p. 152.

10. McBride and Shorer: Erythematous and Urticarial Eruptions Resulting from Sensitization to Certain Foods. JOUR. CUTAN. DIS., 1916, 34, p. 74.

anesthesia; no ataxia; no Babinski; no ankle clonus, and rectal examination was negative.

*Clinical Examination.*—The examination of the blood revealed: Hemoglobin, 90 per cent. (Tallqvist method); red blood corpuscles, 5,200,000; color indexes, 1; leukocytes, 8,600; polymorphonuclears, 72 per cent.; lymphocytes, large and small, 12 per cent.; mononuclears, 16 per cent.; eosinophils, 0; basophils, 0; blood platelets present but not counted; no other abnormal findings; coagulation time of blood, three minutes; Wassermann test was negative; complement fixation test for gonorrhea was negative; urine was amber, clear and acid; specific gravity, 1,022; no albumin or sugar; faint trace of indican; the microscopic examination was negative; a culture from abscessed teeth showed *Streptococcus viridans* and *Diplococcus pneumoniae;* the feces contained no ova or parasites, no blood, no excess of fat, protein or starch.

*Dermatologic History.*—The patient had acne dorsalis ever since he came to this country. Five years ago he noticed a patch, the size of a silver dime, on the left corner of the upper lip. It was blotchy and covered with scales. It did not itch and lasted eight days. This eruption occurred about six times in the same location. For the past two years he had been complaining of itching, immediately followed by a rash on various parts of the body, namely, the back, shoulders, elbows, backs of wrists and fingers, buttocks, penis, knees and toes, and of smarting of the tongue and lips. This lasted about one week and then disappeared with the exception of the rash on the shoulders, back and buttocks, which remained. These attacks recurred every six to eight weeks, and the spots that persisted always participated in the recurrences by a surrounding fresh areola of redness.

When he came under observation at the Vanderbilt Clinic, Sept. 27, 1915, there were noticed dime-sized, circular lesions on the left shoulder, uniformly bluish-red and somewhat scaly, slightly elevated above the surrounding skin and the margins slightly thickened. Similar lesions, but smaller, were present on the right shoulder. On the right buttock near the internatal cleft, were two lesions, the size of a silver dollar. They had a violaceous center with a pink periphery. The surface was smooth and slightly scaly. There was very little display of colors in any of the lesions and a few were slightly raised above the surrounding skin, especially at the margins. He said that each relapse was preceded by nausea and headaches, and that constipation always caused an outbreak. He did not complain of arthritic pains, but did complain of itching at the site of the lesions.

Jan. 12, 1916, the patient presented denuded areas on the tongue and lips. On the right shoulder, below the posterior axillary fold, was a 25-cent piece sized, old pigmented spot; a few similar ones on the left side, in the same location. A silver-dollar sized, pigmented lesion was in the left deltoid region, a few smaller pigmented ones on the back of the left elbow, first and second interphalangeal joints, index and ring fingers on the left hand. One small spot was near the web on the back of the little finger, right hand, and a few smaller spots on the back of the right elbow. There was a dime-sized spot on the side of the nose, near the left eye. All lesions described under this date had persisted for six months and were of a slate brown color. He had had outbreaks on the glans penis which lasted only two weeks; these left no traces. He had a few small violaceous patches on the knees and toes. The patches on the buttocks were still present and looked the same as when he first came to the clinic, namely, of a bluish red color.

*Histopathologic Examination.*—A section was taken from the lesion on the right buttock, which was then of a bluish red color, and stained with hematoxylin-eosin. Polychrome methylene blue was used to detect mast cells and Weigert's stain for elastic tissue. Under low magnification the horny layer was slightly hyperkeratotic and edematous. The granular layer was missing in places, otherwise normal. The stratum lucidum was absent. The rete pegs were widened and slightly acanthotic. The basal layer was normal. The vessels of the

papillæ and of the subpapillary regions were considerably dilated. The infiltration was perivascular, moderate in amount and confined to the papillary and subpapillary regions. Under higher magnification, the cells of the horny layer were loosely woven due to an edema and the granular layer was normal, absent in places. There was a moderate interstitial and parenchymatous edema of the rete cells and a few round cells, some containing a coarsely granular pigment, were found in this region. The basal layer was intact, the cells perhaps slightly edematous. The papillary bodies were enlarged and contained many round cells which completely surrounded the dilated vessels. The subpapillary vessels were dilated, the walls edematous and the lining endothelium swollen. A few of the larger vessels were engorged and contained coagulated fibrin and a few shadow forms of red corpuscles.

The infiltration was perivascular and consisted mostly of round cells and a few proliferating connective tissue cells. Lying in the dilated perivascular lymph spaces were a moderate number of pigmented cells. These were irregularly, pear shaped, two to three times the size of a round cell and contained coarse, dark brown granules, in all respects resembling melanin. Some of this pigment was found free in the lymph spaces of the collagen, but no evidences of red cells or hematin crystals were found. An occasional plasma cell, mast cell and polymorphonuclear were noted. The collagen was thickened due to edema, and the elastic tissue fibers were separated for the same reason. The glandular structures and appendages were normal.

Case 2.—*History.*—The patient, Miss E. L., aged 19, was born in Russia; she was six years in the United States, always in New York City. Her occupation was that of trimmer.

Her father and mother were alive and well, aged 46 and 39 years, respectively. She was one of eight children and next to the oldest. There was no history of skin disease in the family. She was born at full term and breast fed. When a child she had measles, with good recovery. Eight years ago she had typhoid, also with good recovery. She had never had any other illness. Her habits were good. Her bowels were regular. Her menstrual history was negative. She denied ever taking any drugs. There was no loss in weight and at present she tipped the scale at 115 pounds. Her height was 5 feet and 4 inches.

*Physical Examination.*—With the exception of a slight hyperidrosis and tremor of the hands, nothing abnormal was noted. She was a brunette. Her teeth were in good condition. The blood pressure was 120 systolic and 75 diastolic. The Wassermann reaction was negative. The blood examination showed: red blood corpuscles, 4,000,000; white cells, 8,000; polymorphonuclears, 60 per cent.; lymphocytes, small, 23 per cent.; large, 17 per cent.; hemoglobin, 85 per cent.; the coagulation time of the blood was eight minutes. The examination of the urine was negative. The examination of the feces showed a small quantity of undigested food, otherwise it was negative.

*Dermatologic History.*—In June, 1915, red spots appeared on the skin in the stomach region, accompanied by burning and itching, which lasted about two days, the spots remaining. At first they were of a pink color, becoming bluish in two or three days. Three months after this first attack she had a recurrence, which was repeated every three or four weeks. Feb. 26, 1916, she presented a large number of macular, grayish-brown, flat patches, varying in size from the diameter of a pea to a child's palm, oval and circular in shape and scattered chiefly on the abdomen, thorax, breasts and upper extremities; two hemorrhagic, circular spots were present on the palate. The color varied from slight yellow to reddish. The old spots became redder with each new attack. She complained of pain in the extremities and the joints occasionally, but not with the attacks of skin eruption. June 24, 1916, dime-sized purplish spots were present on the dorsum of the right hand and foot. The eruption on body still presented a deep purplish color. Aug. 7, 1916, she went on her vacation to the mountains; she paid no attention to her diet; took no medication; felt much better; had no relapse; the spots on the abdomen and the chest were of a slate

brown color. On Aug. 14, 1916, she had had no relapse since she went to the country, but still had the old pigmented patches on the trunk. Jan. 15, 1917, no relapse had occurred, but the old patches were still present. March 15, 1917, no relapse had taken place, but the old pigmented patches were still present. They were of a slate brown color.

*Histopathologic Examinations.*—A section was taken from a pigmented spot in the left scapular region and stained with hematoxylin-eosin. Under the low power the horny layer was slightly thickened, laminated and loosely woven. The rest of the layers of epidermis were normal in appearance; an edema of the rete cells was evident and a slight acanthosis. The collagen of the papillary body was moderately edematous, that of the subpapillary region less so. The vessels of the papillary, subpapillary and midpapillary region, but especially in the last two, were dilated. A perivascular infiltration which consisted of many pigmented cells was noted. This occurred in some places more than in others. Under high magnification, the changes noted in the horny layer above were more distinctly visible. The granular layer was normal. The rete cell showed a moderate interstitial and parenchymatous edema and a few mitotic figures. The basal layer was intact. The collagen was undoubtedly edematous, especially in the papillary body. Located in the subpapillary and midpapillary regions and occasionally in the papillary body, were moderately dilated and edematous vessels, whose perivascular lymph spaces were quite dilated; in fact, the vessels appeared to be lying in a lake of lymph. In these lymph spaces were many pigmented cells or cells that had taken up yellowish brown granules. Aside from the fact that they were more numerous than in Case 1, they looked very much alike. Some free pigment, many round cells and fixed connective tissue cells made up the rest of the infiltration. An occasional polymorphonuclear in the vessel itself was noted. No mast cells or plasma cells were seen. The elastic tissue and glandular structures and appendages were normal.

CASE 3.*—*History.*—The patient, Mr. S. B., was aged 22, a Russian by birth, and four and one-half years in the United States, always in New York City, with the exception of one year ago, when he worked in the country for seven months. His occupation was that of a pocket-book maker. He was one of eight children, all of whom were living and well. His father and mother were alive and well. There was no history of any skin disease in the family. He said he never had any of the diseases incident to infancy and childhood. His habits were regular, he did not smoke or drink, and never took any drugs, and the only trouble that he said he had was a slight catarrh of the nose, for the past three years. For the past three years he had also been constipated. He began to have trouble with his skin about the same time.

*Physical Examination.*—Although built rather slender, he seemed to be in good health. He was dark complected. Other details were gone into as in the cases previously mentioned, but nothing abnormal was noted in the entire examination, both physical and clinical.

*Dermatologic History.*—The patient said that the eruption began three years ago, as small red "pimples" scattered over the backs of the hands, over the shoulders and on the back of the chest and on the buttocks; accompanying this eruption he had isolated purplish spots, varying in size from a 50-cent piece to a silver dollar, situated on the back of the left wrist, below the left clavicle, back of the chest, sacral region, left hip and right thigh. The red papules lasted two weeks and disappeared, leaving no trace, but the purplish spots remained and were still present after three years. In the beginning of this skin trouble he used to get fresh outbreaks every two or three weeks, then later on every two months. One year ago, while working in the country for seven months, he had no attacks. Since he was back in the city (for past year)

* Patient of Dr. Ludwig Weiss, through whose courtesy I was enabled to report this case.

his attacks were coming on about every two months. He had had no attack for the past seven months. Each outbreak was accompanied by itching but no premonitory symptoms were present. Since he was under the observation of Dr. Weiss and myself, no relapse was noted, but he described the outbreak as an occurrence of fresh red spots which lasted only a few days, whereas the large purplish and persistent patches seemed to deepen in color and show a pink margin.

*Histopathologic Examination.*—A section was taken from the bluish pigmented lesion on the left hip and stained with hematoxylin-eosin. Under low magnification, there was a hyperkeratosis of the horny layer and a slight acanthosis of the rete with an intercellular edema of the rete cells. The stratum lucidum was absent, the granular layer was thin and uniform. The papillary bodies were slightly edematous. The collagen also appeared edematous but particularly so in the subpapillary regions. The vessels of the papillary and subpapillary regions were dilated, especially the latter, where the perivascular infiltration was most marked. Under higher magnification, the horny layer was increased in thickness, loosely woven but not parakeratotic. The prickle cells were somewhat compressed by an intercellular edema and an occasional mitotic figure was noted. The stratum lucidum was absent, and the granular and columnar layers were normal in appearance; an occasional round cell was evident in the latter region.

The collagen in the papillary body was slightly edematous; in the subpapillary region it was fragmented and rarefied by the edema and infiltration present. The vessels in this latter region were dilated, especially the perivascular lymph spaces, which were markedly so. The endothelium lining the vessel wall was swollen. The infiltration was perivascular only and consisted of many round cells and a few proliferating and fixed connective tissue cells. An occasional polymorphonuclear and plasma cell was noted, but no mast cells or sign of hemorrhage were seen. A striking feature of this infiltrate was the presence of fair-sized pigmented cells, lying in the perivascular lymph spaces. These cells looked very much like chromatophores or the pigmented cells found in melanotic conditions of the skin. The granules were quite large, of a dark brown color, and completely filled the cells they were lying in. The glandular structures and appendages were normal. The elastic tissue did not appear to be altered.

Case 4.—*History.*—The patient, Mrs. A. S., aged 38, was married and her occupation was that of ordinary housework. She emigrated from Russia to the United States nine years ago and had always lived in New York City. During eleven years of her married life she gave birth to six children, four of them alive and well; one died in infancy of "summer complaint." Her fourth pregnancy ended in the eighth month, the child living one and a half days. During this time her husband, who was a painter by trade, was suffering from plumbism. She herself had always been particularly well, except after the premature delivery about four years ago, when she had to be curetted for metrorrhagia. The onset of her skin trouble was not definite; she admitted a mild itching eruption while in her fourth pregnancy, which she said came on after eating canned salmon. The onset of the pigmented rash she dated back to about four months after the curettage. Her habits were good. Her periods were regular but she had always suffered from constipation. She denied ever taking any headache powders or any other drugs.

*Physical Examination.*—The patient was a brunette, of middle stature and corresponding weight and slightly neurotic; the physical and clinical examinations were gone into to the smallest detail. Nothing abnormal was noted outside of her skin eruption.

*Dermatologic History.*—For the past three and one-half years she was having outbreaks of an eruption on her body which left pigmentations. She had fresh attacks sometimes every two or three days. When they first appeared they were small erythematous spots which lasted only a few days and left no

traces, but very soon most of the spots remained, became purplish and persistent. With each relapse, these persistent spots always became more pigmented and were surrounded by a pink rim, but they did not increase in size.

When she first came under observation at the clinic, the eruption was located irregularly over the back, buttocks and extremities, especially the inner surface of thighs, buttocks and forearms and the backs of the hands. They were rounded and oval areas, dime to palm sized, fairly well defined and of purplish and purple brown tint. There was slight scaling in places. Her relapses were rather frequent and at such times the lesions, new and old, became raised and the edge was slightly thickened, but no urticaria was present even on rubbing. The patient complained of itching with each relapse, but no constitutional symptoms, as fever, joint pains or diarrhea. She did complain of nausea and headache before the eruption appeared.

*Histopathologic Examination.*—A section was taken from a fresh lesion situated on her back and stained with hematoxylin-eosin, Gram-Weigert and Perls' iron stain. The horny layer was smooth, wavy and slightly hyperkeratotic. A dyskeratosis of the cells in the granular layer and upper rete cells was noted in places. There was a parenchymatous and intercellular edema of the rete, and slight disorganization of the basal cells from edema and infiltration below. The rete pegs were enlarged. The papillary bodies were also enlarged due to an edema, and the collagen in this region was rarefied for the same reason. The elastic tissue appeared normal. The vessels were more dilated than in the other sections of this series, some of the vessels containing a few red corpuscles. The endothelium lining the vessel walls was swollen. The infiltration which was present was not quite so marked as in the other sections, but consisted also mostly of round cells, a few plasma cells and an occasional polymorphonuclear. No mast cells were seen. The infiltration was perivascular and confined to the papillary and subpapillary regions. The pigmented cells noted in sections from the other cases were also present here, but were less numerous.

Perls' stain for iron in the pigmented cells found in this section was tried, but no blue reaction occurred. This confirmed our opinion that the pigment was melanin, for according to Unna, if the pigment did not give the iron reaction it was melanin. The glandular structures and appendages were normal. No micro-organisms were noted with the Gram-Weigert stain.

CASE 5.—*History.*—Patient, J. T., was first seen by Dr. Howard Fox. Later she appeared at the Vanderbilt Clinic for treatment. She was 27 years old, born in Russia, and had been in the United States eleven years, always in New York City. She was married eight years and had one child, living and well, 7 years old. One year ago she had a premature delivery, the child living only two days; the cause of this was not known. The family history was negative, and there was no history of any skin disease in the family. She did not recall ever having had any illness and was always in good health. Her periods were regular.

*Physical Examination.*—The patient was a brunette, of average height and weight, and well built. She was not very intelligent and seemed to be somewhat neurotic. Detailed examination of her nose, mouth, throat, larynx, eyes and ears revealed nothing abnormal. Similar examination of the thorax, abdomen and extremities was also negative. Clinical examination of the urine and stools was also negative. The Wassermann test was negative. The examination of the blood showed 4,000,000 red blood corpuscles with a hemoglobin of 85 per cent. (Tallqvist's). The white cells and differential counts were normal.

*Dermatologic History.*—She said she had trouble with her skin for the past one and one-half years. No reliable description could be obtained from her as to how the eruption looked when it first appeared, or the manner of distribution. The relapses were quite often and were accompanied by itching.

According to her family physician, who saw her early in the last pregnancy, there were present pigmented stains on her body from previous attacks. She

was free of relapses during the pregnancy and not until six months after confinement did she complain again. At this time she took some proprietary laxative to which she attributed the outbreak. This laxative contained a small amount of phenolphthalein (½ to 1 grain). Five weeks ago she claimed she had another relapse immediately following the ingestion of this laxative. She denied taking any other drugs or headache powders.

*Description of the Eruption.*—The lesions were distributed around the mouth, over the chest, back, arms and thighs. They consisted of roughly oval and circular patches, varying in size from a quarter to a half dollar. The lesions were slightly elevated, the surfaces were smooth and free of scales and the margins somewhat thickened but ill defined. Their color was brown; some of the spots were of a red-violet tint. This latter appearance was due to the fact that she just had a relapse, and the patient said the old spots always flared up when that occurred.

*Histopathologic Examination.*—The section was taken from a purplish pink lesion on the skin of the postaxillary fold. Dr. Howard Fox had kindly sent the specimen to the Vanderbilt Clinic. The stains used were: hematoxylin-eosin, Weigert's elastic tissue, and Perls' stain for iron in pigment.

Excepting for considerable pigmentation, there were no notable changes in the tissue. There was a loosely laminated horny layer covering a moderately acanthotic rete. The rete pegs were somewhat increased in size and several were confluent. The rete also showed a moderate parenchymatous edema. There was very little vascular dilatation but some endothelial proliferation and hyperplasia. There was a moderate perivascular collection of round cells, mostly in the papillary and subpapillary bodies. The collagen and elastica were normal. There were many pigmented cells in the perivascular zones, irregularly pear-shaped and containing fair sized, dark brown granules which did not give a blue reaction with Perls' stain.

In addition to the case reports given, I examined a young man, about 22 years old, with a similar eruption, at the Mount Sinai Clinic in the service of Dr. A. B. Berk, about four years ago. The patient had spots scattered over his upper and lower extremities and on the buttocks, the size of a half dollar and bluish red in color. He said that these spots were present for several years, were persistent and every once in a while would flare up, becoming more red. The patient disappeared before detailed study could be made.

Stelwagon[11] presented a case before the Philadelphia Dermatological Society in 1913 or 1914, in which the following history was given:

A woman, aged 38, had an eruption on the arms, legs and trunk which began as small rings with elevated borders, and which enlarged by the spread of the circumference or by confluence with other lesions, reaching palm or larger in size. The duration of the outbreak was about four months. Involution occurred by the breaking up of the circumference, and pigmentation remained after the disappearance of the active lesion. She was presented as having a case of erythema multiforme perstans.

Hartzell[12] presented a case before the Philadelphia Dermatological Society at the April or May meeting, in 1916, with the following history:

The patient was a mulatto woman, aged 28. On each wrist was a perfectly round lesion about the size of a silver half dollar; very much darker than her light mulatto tint, lightly elevated and surrounded by a markedly inflammatory halo, about a quarter inch wide. Over the right scapula was another, smaller lesion which was oval in shape. Completely surrounding the mouth was a zone of dark pigmentation, about half an inch wide and which in turn was surrounded by a pinkish halo. She gave the history of having one attack three years ago; another last October, of an exactly similar nature. On her arms and back were about ten pigmented spots which were the remains of previous lesions. They

11. Stelwagon: Case Demonstration. JOUR. CUTAN. DIS., 1915, 33, p. 219.
12. Hartzell: Case Demonstration. JOUR. CUTAN. DIS., 1916, 34, p. 85.

were extremely tender to the touch and accompanied by considerable itching. He added that if the patient were white, probably the iris form of erythema multiforme would be much more noticeable.

McEwen[13] presented a case before the Chicago Dermatological Society, April 18, 1916, with the following history:

A Jewish tailor, about 50 years of age, had his first slight attack in December, 1915. Two months later he was seen in the hospital with a very dark, bluish red eruption on the face and backs of the hands and a severe stomatitis. The disease was ushered in with chills and vomiting. Since then he had had three attacks, each one more severe than the preceding one. The eruption had the same livid color each time, leaving a deep pigmentation which had no time to clear between attacks. The last attack involved the trunk as well as the extremities, but the mouth was not severely affected, possibly because he had had all his teeth which were very bad, extracted. He presented deep brown, pigmented areas with gyrate borders, involving nearly the whole face and the backs of hands. The limbs and trunk were dotted with large, deeply pigmented macules. On the face some of the purplish congestion was still seen. This case was presented as erythema multiforme with marked pigmentation.

## RÉSUMÉ AND DISCUSSION OF THE CLINICAL AND DERMATOLOGICAL HISTORIES

The five cases, the subject of this report, presented the following points of importance:

There were two men and three women, their ages varying from 19 to 32 years. Case 1 was light complected, Jewish and born in Roumania; the others were dark complected, also Jewish and of Russian birth. They were in this country a comparatively short time. Their occupations varied and seemed to have no bearing on their skin diseases. Their family histories were all negative. Their past histories were more important.

Case 1 was subject to nose bleed, headaches and constipation; Case 3 attributed his trouble to the onset of constipation; Cases 4 and 5 had each had a premature delivery; Case 2 had nothing in her past history to account for her trouble. Their habits were regular; they never took any drugs with exception of Case 5, who used a proprietary chocolate laxative containing phenolphthalein.

Their physical examinations were entirely negative. No enlargement of the liver or spleen was ever noted. Their complete blood counts were all normal; their urines showed traces of indican, but no albumin, or blood corpuscles; their stools were all negative for blood, ova and parasites; and their Wassermann tests were all negative. The gonorrheal complement fixation test in Case 1 was also negative. The Gram-Weigert stain in Case 4 revealed no organisms.

The average duration of the eruption was about three years, sometimes preceded by a fleeting itching eruption; the relapses occurred at no definite time, sometimes every two to three days, sometimes not for six months, bearing no relation to seasonal changes of tempera-

13. McEwen: Case Demonstration. JOUR. CUTAN. DIS., 1917, 35, p. 107.

ture and not accompanied by arthritic pains or uneasiness except in Case 2. There was no fever. The only prodromal symptom was a slight nausea. Case 1 had also headaches and an occasional nosebleed.

The eruption itself was practically the same in all the cases, and consisted of round or oval, slightly raised spots, about the size of a silver quarter of a dollar up to palm sized, reddish blue or violet in color, sometimes scaly, and with a pink margin about one-quarter inch wide. Most of the spots remained, and the exudation soon subsided; a few smaller ones of a pinkish color disappeared in a few days. When the patient was free of relapse for six months or so, these spots became of a slate brown color. In case a relapse occurred, these pigmented patches were sure to participate in it, when they became violaceous with a surrounding pink halo and slightly elevated again. The distribution of the patches was that of the usual location for erythema multiforme. Whatever other areas were involved, there was always an eruption on the backs of the hands and occasionally on the backs of the feet. A striking tendency for the eruption to locate itself on the buttocks, near the internatal clefts, was also noted.

The case cited by Stelwagon resembled my cases, in that it was a persistent erythema multiforme which left pigmentation, but the ringed lesions were absent in my series.

Hartzell's case was a duplicate of Case 2, with the exception that the latter did not complain of any tenderness in any of the lesions. Whether these cases should be called erythema iris will be taken up in differential diagnosis.

McEwen's case had severe constitutional symptoms and the eruption seemed to be more marked; otherwise his case resembles the group here reported pretty closely.

Ehrmann[14] described similar eruptions following constipation and menstrual disorders, and called them "circumscripte Erytheme en plaques," classing them with the toxic and infective erythemas. No case reports were given. He attributed the pigmentation to the presence of melanoblasts, and thought that the pigmentation was more marked and persistent in brunettes than blondes, also that they occurred in regions of the skin where a certain amount of pigmentation was normal, as in the genital regions. This was also noted by the author.

### Résumé of the Histopathology

The following table was constructed from the descriptions of the histopathology of urticaria, erythema multiforme and purpura, as given by Ehrmann and Fick.[15] A few additions were made to make the table complete.

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14. Ehrmann: Toxische und Infectöse Erythem. Chemischen und Mickrobiotischen Ursprungen. Mracek's Handbuch der Haut Krankheiten. Vienna, 1902. 1, pp. 632-658.

15. Ehrmann-Fick: Spiezielle Histopathologie der Haut. Vienna, 1906, pp. 4-9.

DISTINCTIVE FEATURES IN THE DIFFERENTIAL DIAGNOSIS BETWEEN URTICARIA, ERYTHEMA EXUDATIVUM MULTIFORME, AND PURPURA

| Urticaria, an edema * | *Erythema exudativum multiforme, a dermatitis plus edema* | *Purpura, a hemorrhage into the skin and subcutaneous tissue plus a mild inflammation* |
|---|---|---|
| Epidermis in its entirety shows an intercellular edema, of varying intensity, or even a vesicle | Epidermis — horney layer is raised, parenchymatous and interstitial edema of rete; plenty of leukocytes in intercellular spaces; whole epidermis is soaked with serum which under certain circumstances is slightly hemorrhagic | Epidermis is occasionally invaded by red corpuscles of extravasated blood |
| Papillary bodies thickened due to edema | Papillary bodies thickened due to edema | Papillary bodies slightly thickened |
| Superficial capillaries contracted | Superficial capillaries dilated. | Endarteritis; thrombus formation |
| Deep vessels widened, injected and filled with blood | Deep vessels dilated..... | Ruptured vessels occasionally; organisms occasionally demonstrated in thrombus |
| Lymphatics dilated..... | Lymphatics dilated..... | Lymphatics dilated |
| Collagen; thickened by an edema in and between fibers and bundles; fine striations disappear and is homogeneous in papillary body | Collagen; striations disappear due to edema. Occasional red cells or their products in collagen, which accounts for the display of color when lesions involute | Collagen; between bundles are red cells; in old lesions decomposed blood in appearance as granules (hemosiderin) or crystalline clumps and flakes |
| Elastic fibers spread apart.... | Elastic fibers spread apart; otherwise well preserved | No change in elastic fibers |
| | Infiltration is perivascular and confined to papillary and subpapillary regions; consists of round cells, also polymorphonuclear and connective tissue cells; plasma cells absent | Slight perivascular and diffused round cell, polymorphonuclear and proliferating connective tissue cell infiltration, occasional plasma cell |

* Gilchrist[5] claims urticaria an acute inflammatory process with leukocytic infiltration.

The histopathology of the five cases was practically the same.

The epidermis was moderately hyperkeratotic and laminated due to an edema; no parakeratosis was present. There was a slight parenchymatous and a moderate interstitial edema of the rete; a few round cells and chromatophores were found in the basal layer. There was a slight acanthosis in some cases. The stratum lucidum was usually absent and the granular layer was normal in appearance, except in some it was absent in places. In Case 4 there was a dyskeratinization of the granular layer and upper layer of the rete cells. The papillary bodies were moderately thickened from an edema; the papillary and subpapillary vessels were moderately dilated, the lymphatics, especially the perivascular lymph spaces, were more so. The collagen and elastic fibers of the papillary bodies were usually spread apart by the edema; the collagen in the subpapillary region was thickened and the striation somewhat dimmed. No degeneration of collagen or elastin was seen. No hemorrhages were visible. The infiltration was perivascular and confined to the papillary and sub-

papillary regions, and consisted mostly of round cells and proliferating connective tissue cells; an occasional polymorphonuclear, plasma and mast cell was noted.

This places these cases in the erythema multiforme group of a mild and subacute type.

In addition, many pigmented cells were seen lying in the perivascular lymph spaces of the subpapillary region; a few also were seen in the papillary bodies and occasionally in the epidermis. Very little pigment was noted lying free in the collagen spaces. These pigmented cells were about two to three times the size of the round cell, irregularly pear-shaped and contained moderately sized, dark brown granules which did not react to Perls' stain. The cells might be called chromatophores and the pigment melanin. For, according to Unna,[16] pigment found in the skin which never reacted to Perls' ferrocyanid test was melanin. Hemosiderin gave a reaction with ferrocyanid (Perls') as it contained oxid of iron.

### DIAGNOSIS

There were a few dermatoses that had to be excluded, in which the eruption consisted of a macular erythema with hemorrhagic elements or pigmentations and whose clinical appearances were almost identically alike.

Brocq and Darier, quoted by Ormsby,[17] had reported cases in which antipyrin had produced a more or less persistent erythema which took the form of scattered, isolated and sharply defined plaques. These plaques were few in number, accompanied by pigmentation and occurred in the same sites each time the drug was taken.

Ehrmann[14] also mentioned a case in a colleague who had macular pigmented lesions on the penis and scrotum that recurred in the same place from time to time. Antipyrin internally usually produced the relapses, but not always.

That is why the patients were questioned so closely as to whether they ever took any medicine or drugs. They all denied this, with the exception of Case 5, who said that she was in the habit of taking a proprietary chocolate laxative that contained about 1 grain of phenolphthalein. She was not quite sure whether she had the eruption before she started to take this laxative. She was more certain, however, that on two different occasions a relapse followed each time this laxative was taken.

Dr. Howard Fox was of the opinion that the eruption was due to the phenolphthalein. To test this out, she was first given some chocolate, but nothing occurred; she was then given two tablets of the laxative, which amounted to 2 grains of phenolphthalein. In five minutes

16. Schmidt: Unna's Histopathology of Diseases of the Skin. Trans. by Norman Walker, Macmillan, 1896, p. 960.

17. Ormsby: Diseases of the Skin, 1911, p. 270.

she began to complain of itching, which three hours later was followed by an extensive macular erythema of the face, body and extremities as well as a purplish coloration of the old pigmented spots, that also showed halo at their margins. All the lesions showed signs of exudation; no urticaria was present. Examination of the urine for phenolphthalein and red corpuscles was negative; the stool could not be obtained. In this connection, it was interesting to note that Case 1 was lately taking from 1 to 5 grains of phenolphthalein for his constipation and since this treatment, had not had any relapse. Case 4 was given the proprietary laxative that had affected Case 5, but no symptoms occurred.

Chemically, phenolphthalein is a phenol compound and belongs to a class of bodies known as triphenyl methane dyes, to which also fuchsin, eosin and fluorescin belong. Enormous doses of phenolphthalein were given by Abel and Rowntree[18] to animals intravenously and no toxic effects were noted. Hydrick[19] reported albuminuria after the administration of from 1 to 2 grains of phenolphthalein to human beings which lasted from one to three days. All were agreed that the drug was excreted in the feces mainly and to a slight degree in the urine. No skin eruptions were reported anywhere.[20] Case 5 is evidently the first record of such an occurrence. A small amount of phenolphthalein powder was applied to the abraded skin, and also in solution percutaneously with negative results. The question whether the eruption that occurred in Cases 1, 2, 3, 4 and 5 might be an erythema multiforme iris, can be answered in the negative, as the lesions never vesicated (a common occurrence in true erythema iris), and the concentric rings described as occurring in erythema iris, were never seen at any time.[21]

A disease, known as rat bite fever,[22] incident to the bite of a rat and followed, after a variable incubation period, by a single paroxysm or by regularly recurring paroxysms of chills, fever and sweats lasting a few days, required exclusion, as there also occurred in this disease a bluish red exanthem on the body, closely resembling the lesions that occurred in my cases. The negative history and the absence of the local wound with its neighboring enlarged glands at the time of relapse, easily excluded that condition.

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18. Abel and Rowntree: Action of Some Phthaleins and Their Derivatives. Jour. Phar. and Exper. Therap., 1909-1910, 1 p. 262.

19. Hydrick: Albuminuria Following Ingestion of Phenolphthalein. Proc. Am. Soc. Biolog. Chem., 1914, p. 36.

20. Department of Therapeutics, Phenolphthalein. Jour. Am. Med. Assn., March 30, 1907, 48, p. 1133. Gilbride: The Clinical Use of Phenolphthalein. Jour. Am. Med. Assn., 1910, 54, p. 343.

21. Schwimmer: Ziemmsen's Handbook of Skin Diseases. New York, 1885, p. 368.

22. Crohn: Rat Bite Fever. Arch. Int. Med., 1915, 15, p. 1015.

Urticaria pigmentosa (Sangster) might cause some confusion, when seen in the pigmentary stage, but the absence of mast cells microscopically and the lack of the lesions to form wheals, especially when rubbed, easily excluded that affection of the skin.

The absence of urtication also excluded that form of urticaria followed by pigmentation with absence of mast cells (maladie pigmentée urticante of Quinquad[23]).

Purpura is usually associated with rheumatic pains, or other constitutional symptoms. The lesions usually are hemorrhagic from the start and the sections usually show hemorrhages, thrombi and ruptured vessels. Any pigment that is found is hemosiderin which reacts with Perls' stain.

## TREATMENT

Of all the remedial agents tried, climatic, dietetic, physical, chemical and serologic, there was no uniformity in results. Case 2 had been free of relapses ever since she came back from a short stay in the mountains last summer. Cases 1 and 3 were subject to relapses when constipated, and laxatives, coarse vegetable diet and general hygienic measures produced relief. Case 3 also felt well in the country where he was less constipated.

Case 4 obtained very little relief from anything I did. Case 5 said she felt well as long as she did not take the proprietary laxative containing phenolphthalein.

No food sensitization tests were made, but separately, the proteids, fats and carbohydrates were excluded from their diets at different times and with no benefit at all. In fact, Case 2, while in the country, ate promiscuously, yet her relapses stopped and never recurred since (almost one year).

Locally, some benefit was obtained in removing the pigmentation by the use of a 3 per cent. chrysarobin ointment.

On the basis of the pigmentations that were left, an adrenal insufficiency was thought of. The administration of adrenalin, however, was of no benefit except at the height of the relapse, when it relieved the itching. Thyroid extract also was of no use.

## SUMMARY

1. Chronic or relapsing forms of erythema multiforme followed by pigmentations are not met with unusually, with the exception of the macular variety, which is quite rare. A study of this particular form was undertaken as very little had been written on the subject.

23. Raymond: L'Urticaire Pigmentée. Thése pour le Doctorat en Medecine, 1888. Quinquad: Maladie pigmentée urticante. Ann. de dermat. et de syph., 1893, 4, Series 3, p. 859. Fox, T. Colcott: Albutt and Rolleston, System of Medicine, 1911, 9, pp. 227 and 250.

2. The eruptions in the five cases were identically alike; so was the case observed at the Mount Sinai Clinic and those mentioned by Ehrmann. The cases of Stelwagon, Hartzell and McEwen belong to the same group.

3. They were all relapsing, macular, exudative erythemas followed by pigmentation; the pigmentations always flare up with each relapse.

4. The study of the histopathology of the five cases classes them with the erythema multiforme group.

5. They all showed the presence of pigmented cells, more in the old spots, and less in the new ones (chromatophores or melanoblasts or macrophages).

6. The pigment did not give the iron oxid reaction to Perls' ferrocyanid test and was therefore considered melanin.

7. Constipation was the only possible cause in Cases 1 and 3. There was no definite cause ascertained in Case 2. The eating of canned salmon was considered a possible cause in Case 4. The administration of phenolphthalein to Case 5 brought on a relapse. A search for foci, wherefrom bacteria or their products might issue and be responsible for the relapses, did not meet with success.

8. Chrysarobin, 3 per cent. locally, was of slight benefit in removing the pigmentation. A simple diet with rhubarb and soda internally seemed to prevent relapses in all except Case 5. The latter seemed to be free from relapses as long as phenolphthalein was not taken.

9. Considering the direct etiologic cause in Case 5, the similarity of the eruptions in all the cases, as well as those reported due to antipyrin, they might justifiably, under the present indefinite classification, be called toxic erythemas, or drug eruptions, or dermatitis medicamentosa. The latter terms, while implying a definite etiology, take no account of clinical and microscopic appearances and for that reason were discarded for erythema multiforme.

The writer desires to express his thanks to Professor Fordyce for permission to make this study of the patients in the dermatological department of the Vanderbilt Clinic.

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In addition to the references given, the following will be found of interest:
Duhring: Cutaneous Medicine, 1897, 2, p. 250.
Morris: Diseases of the Skin, 1898, p. 96.
Parker and Hazen: Erythema Multiforme Iris During the Course of Typhoid Fever. Bull. Johns Hopkins Hosp., 1911, 22, p. 79.
Adamson: Erythema Multiforme. Brit. Jour. Dermat., 1912, 24, p. 429.
Boerner, Jr., Fred: A Skin Reaction to Quinin. Jour. Am. Med. Assn., 1917, 68, p. 907.

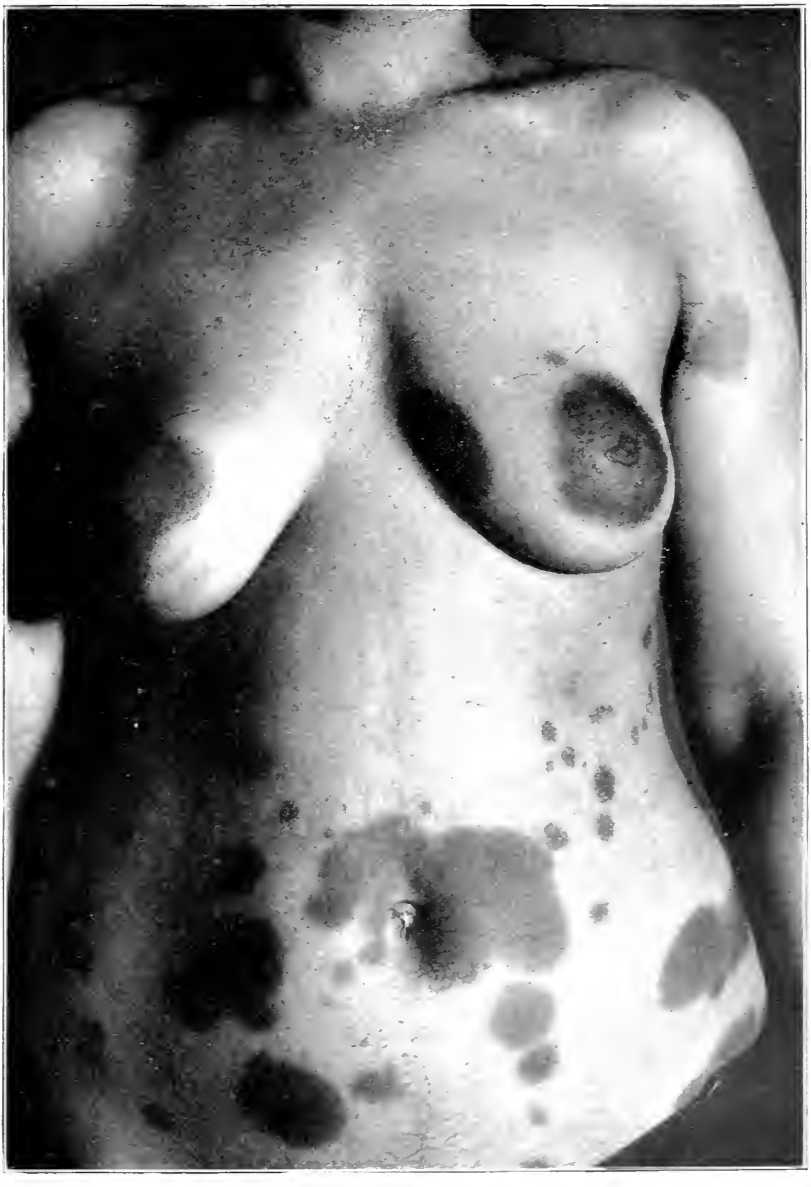

Fig. 1.—Showing persistent areas of pigmentation.

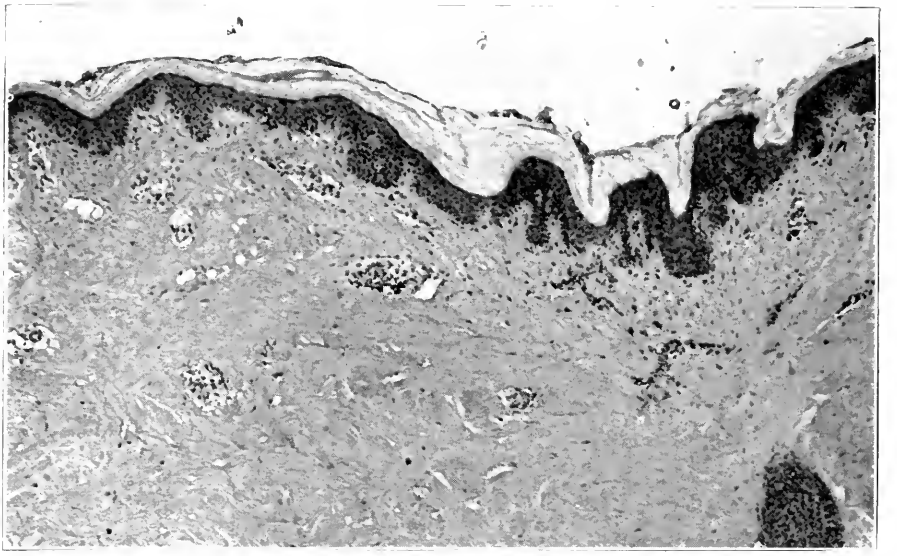

Fig. 2.—Zeiss-planar obj. 20 mm., showing thickened horny layer, dilated vessels and infiltration. Chromatophores can be seen near the vessel in the center.

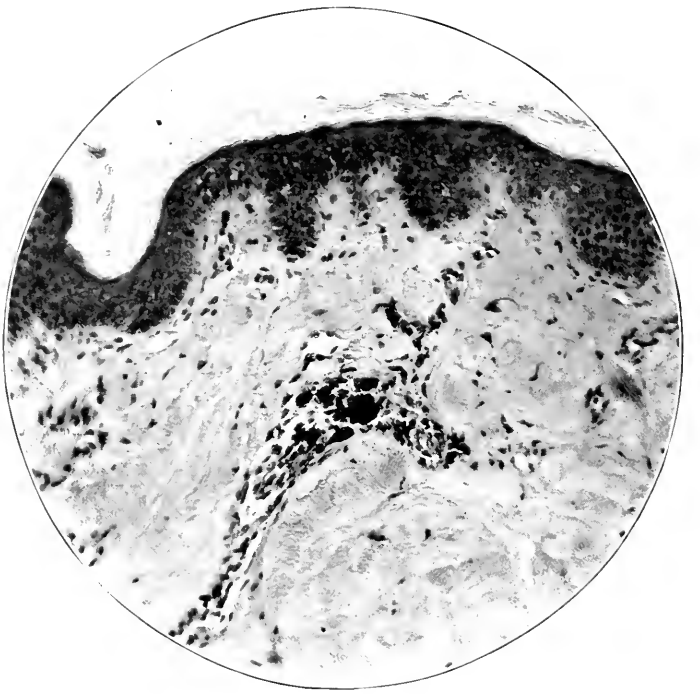

Fig. 3.—Zeiss obj. 8 mm. co. oc. 4, showing chromatophores.

# SCLEREMA NEONATORUM AND SCLERODERMA*

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The discussion of this subject was suggested by the observation of a case of scleroderma in a new-born which is still of comparative rarity; on account of the difference of opinion regarding the diagnosis by a number of dermatologists who also had occasion to see the patient, which they considered to be one of sclerema neonatorum; and lastly, it appeared of great importance on account of the prognosis.

## REPORT OF CASE

In October, 1915, I was requested by Dr. L. E. Frankenthal to see a baby that was born on his service in the maternity ward of the Michael Reese Hospital, and showed an affection of the skin which he considered one of scleroderma. The history of the parents was negative. The mother had previously given birth to three healthy children. The examination of the mother proved her to be in perfectly normal condition. After normal delivery at full term the infant girl weighed 4,190 gm. and was in every respect well developed. On the third day the stool was green, and a loss of 20 gm. of weight was recorded. But from the fourth day on the stool became yellow and her weight was increasing gradually. On the ninth day a bluish red discoloration on the upper part of the back was noticed, and the skin in this region was slightly raised and indurated. On the tenth day the changes became more pronounced. On the eleventh day a second spot of the same nature appeared over the left shoulder. At that time I saw the patient and the following was noted: The upper part of the back showed a mottled bluish red color. This discoloration extended from the neck down, between and over the scapulae, and just below them, and formed an irregular oval with its smaller diameter overlapping the dorsal margin of the right, covering however the whole left scapula. Its outlines were irregular, but sharply defined. The surface of the diseased skin was slightly raised, smooth, and showed numerous telangiectases. On palpation it was found to be intensely firm, boardlike and immovable. Pressure produced no pitting. A narrow rim on the periphery was slightly lighter in color and softer. Over the left shoulder was a round patch, 2 by 3 cm., its longer diameter parallel to that of the plaque on the back, with the same characteristics as the latter but separated from it by normal skin. No pain was caused in either by pressure, nor was abnormal temperature found in them. The child was quiet and behaved like any other normal infant. Two days later the plaques increased in size, that on the back appeared broader and longer, as did the one on the shoulder, and they coalesced with each other. For the following week no change had taken place, but thereafter a gradual softening and diminution of the size of the indurated skin, and fading of color took place. Within about six weeks thereafter the previously affected skin had assumed normal conditions. While the infiltration was developing, and thereafter while the absorption had been taking place, the baby was gaining in weight, and otherwise behaving normally. At no time during the observation did abnormal temperature occur. The treatment consisted in the application of a bland ointment. My diagnosis was confirmatory of that expressed by Dr. Frankenthal, to whom I feel greatly indebted for the privilege of seeing and of publishing the record of the case.

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Inasmuch as the case was an unusual one, several dermatologists were invited to see it, and nearly all refused to accept the diagnosis of scleroderma, but offered one of sclerema neonatorum, except one who declined to express an opinion. Not long after this case was observed, a like one was demonstrated before the Chicago Dermatological Society, and I stood alone with a diagnosis of scleroderma in this case also.

From a purely scientific standpoint it is quite necessary to clarify the diagnosis, because on this depends largely the important question of prognosis. From a perusal of the literature on the subject, it appeared to me as if the division of sclerema and scleroderma in the new-born was generally understood and accepted, but since several dermatologists did not share in this, a review of the matter is well justified.

### SCLEREMA NEONATORUM

This disease was first precisely described by Denman and Underwood,[1] and since then numerous cases are recorded in the literature under this and various other titles. There are, however, two distinct diseases to be separated under this title, namely, (1) sclerema adiposum and (2) sclerema edematosum, which separation has been accepted quite generally, since Clementowsky[2] and Parrot[3] have called attention to and fully discussed it.

1. Sclerema adiposum, which is of far rarer occurrence than the edematous type, develops either in the first few days in weakly, premature infants with or without internal disease, or later within the first few months and then subsequent to cholera infantum, enteritis, pneumonia, etc. All parts of the body surface may become affected, except the palms, soles, scrotum and chest. The disease begins as a rule on the lower extremities and spreads or rather creeps upward. Its distribution is symmetrical. The skin becomes firm and hard, tightly drawn and firmly united with the subcutaneous and other structures; in other words, perfectly immovable. The color of this diseased skin is mostly pale, yellowish, waxy or bluish red, and feels cold, in extensive cases like a frozen corpse. The affected parts show no swelling, but are diminished in volume; the extremities are thinner and the skin seems to be glued to the bone. Active and passive motions are impeded. The pulse is slow and weak, and the respiration slow and labored. The temperature of the whole body is considerably lowered. The prognosis in those cases which begin in the first days is uniformly unfavorable. Within a few more days the disease terminates fatally.

1. Underwood: Treatise of Children. 1784.
2. Clementowsky: Oesterreichisches Jahrbuch f. Paediatrie, 1873, 1, p. 1.
3. Parrot: De l'athrepsie. Le Progrès, 1874 and 1875.

In cases developing within a month or two after birth, in which the skin is affected only to a limited extent and the general condition of the patient is amenable to treatment, a better prognosis, although with reserve, can be offered. Histologically, the affected skin is found contracted, atrophic and anemic.

2. Sclerema edematosum (or scleredema or edema neonatorum) is observed mostly on the second to the fourth day, rarely later, up to two weeks, in prematurely born, weakly developed infants, and in some cases of congenital lues. The disease consists of an intensive edema which begins as a rule on the feet, calves of the legs, gradually spreading to the trunk, upper extremities, in extreme cases even to the neck and face. The skin shows at the beginning the characteristic red tint of the new-born or is cyanotic. With the increase of the edema it appears either pale or more cyanotic. Pitting on pressure stands and disappears slowly. In higher degrees of development, however, there is no pitting and the skin is firm and immovable. There is considerable increase in volume of the parts affected, which produces disfigurement and impedes motion. The skin feels cold, and bodily temperature is considerably reduced. The children are apathetic. Respiration is weak and slow, and the action of the heart is weak. The prognosis in the greater majority of cases is unfavorable. The patients die within a few days from the inception of the disease. Pathologically, the process is a common edema of the skin, the subcutaneous layer and the deeper parts. Histologically, the skin does not correspond to that of a normally developed infant, but to that of a fetus of the sixth to the eighth month.

In the preceding description I have followed the outlines as given by Jarisch[4] and Luithlen.[5]

### SCLERODERMA IN INFANTS

In the records of the older literature we find scleroderma and sclerema considered as one and the same process. The first writers to insist on a separation of the two diseases were Forget[6] and Gillette.[7] But later Roger[8] and LeBreton[9] expressed the opinion that both conditions are identical, suggesting that scleroderma (quasi as a systemic disease) retroacts in a specific manner on the general organism of the new-born and thus produces sclerema. Subsequently Hennig[10] held to

4. Jarisch: Hautkrankheiten, 1900.
5. Luithlen: Mraçek's Handbuch, 1904, 3.
6. Forget: Gaz. méd. de Strasbourg, 1847, No. 6.
7. Gillette: Arch. gén. de méd., 1854, p. 657.
8. Roger: Schmidt's Jahrbuecher, 109, p. 205.
9. LeBreton: Virchow u. Hirsch Jahresberichte, 1866, 2, p. 479.
10. Hennig: Gerhardt, Handbuch der Kinderkrankheiten, 1877, 2, p. 151.

the same view of the identity of both, assuming that the pathologic difference was based only on the variation of structure and of vulnerability of the tissues at the different ages. But gradually the subject is becoming more clarified and a stricter separation of both processes is being generally accepted. On the other hand, true scleroderma was considered to be a disease of the adult only (therefore scleroderma adultorum). In the course of time, however, sufficiently numerous cases of true scleroderma in children have been recorded. Its occurrence within the first year was also unknown, Kaposi[11] even going so far as to claim an immunity of that age to it. The first concrete form to this question was given by the publication of four cases of scleroderma in the new-born by Cruse,[12] in which we find a clear and detailed description. Subsequent to Cruse's cases appear those of Neumann,[13] Langmead,[14] Barker,[15] and others, which also are recorded under the title scleroderma in the new-born, while we find quite a number recorded under sclerema which clearly are cases of true scleroderma. As such may be mentioned those of Money,[16] Bunch,[17] Blacker,[18] Libman,[19] Carpenter and Parkinson,[20] Welt-Makels,[21] Sobel,[22] Bauer,[23] Myers-Wright,[24] Monod,[25] Barrs,[26] Browning[27] and others.

### SYMPTOMS

In reviewing the symptoms of scleroderma as it occurs within the early part of the first year, we find that they correspond in nearly all respects to those observed in scleroderma in the adult. The infants thus affected are well developed and are free from any internal derangement. There is normal temperature. The local symptoms appear as a rule, first on the upper part of the body (face, trunk and extremities) and consist of isolated and mostly irregularly distributed solidified plaques of various sizes and nodes. In whichever part of the

11. Kaposi: Virchow's Handbuch d. Spec. Pathol. u. Ther., 3, No. 2, p. 76.
12. Cruse: St. Petersb. med. Wchnschr., No. 5, 1876; ibidem, 1876, No. 20; Jahrbuch f. Kinderheilkunde, Neue Folge, 1879, 13, p. 35.
13. Neumann: Arch. f. Kinderh., 1898, 24, p. 24.
14. Langmead: Tr. Roy. Soc. of Med., 5, No. 1, p. 139.
15. Barker: Pediatrics, 1893, 10, p. 11.
16. Money: Lancet, London, 1889, 1, p. 526.
17. Bunch: Brit. Jour. Dermat., 1898, p. 145.
18. Blacker: Brit. Med. Jour., 1898, p. 87.
19. Libman: Pediatrics, 1898, 5, p. 22.
20. Carpenter and Parkinson: London Pediat. Soc., Meeting of January, 1904
21. Welt-Makels: Pediatrics, 1905, 17, p. 33.
22. Sobel: Pediatrics, 1905, 22, p. 264.
23. Bauer: Deutsch. med. Wchnschr., 1908, 1, p. 421.
24. Myers-Wright: JOUR. CUTAN. DIS., 1909, 27, p. 87.
25. Monod: Bull. Soc. de pédiat. de Paris, November, 1913.
26. Barrs: Brit. Med. Jour., 1889, p. 994.
27. Browning: JOUR. CUTAN. DIS., 1900, 18, p. 563.

body they may first appear, there is also in nearly every case a participation of the trunk, and here especially the back and gluteal regions, or either of these. The plaques and nodes show at first progression and those situated in close proximity to each other soon coalesce. The skin is firm right at the beginning of the disease. Only in one of Cruse's cases did hard nodes develop within and from an edematous skin. The skin is hard, boardlike, cannot be picked up in a fold. The surface is smooth or slightly scaly. There is no pitting on pressure, nor pain. In some plaques the skin shows no change in color, but in the majority of cases there prevails a bluish-red or brown-red. The disease may develop in the first few days or weeks, rarely months, after birth. Trauma seems to play an etiologic rôle. In Cruse's first case the infant was exposed to cold, having been thrown in a privy by its mother with homicidal intent. In a large number of cases the infants were born asphyctic, and were slapped vigorously to incite respiration, and in these, changes were as a rule first noticed in the places struck. Within a few days to months the progress ceases and the plaques grow smaller and softer. Within a short time the skin assumes a perfectly normal condition. In other words, scleroderma of infants heals spontaneously and completely. In only one case, the second one of Cruse's, did atrophy of two nodes ensue. In scleroderma of adults and older children healing takes place also in a certain number of cases, but then only if the stage of edema or infiltration has been the height of the process. Where the last stage — atrophy — has developed, no restoration to the normal will ensue. Lewin and Heller[28] have found that in those cases of adults in whom the disease had an acute course, healing was the rule; and with this corresponds the course of scleroderma in the infant, which usually reaches the height of development in a short time. The general health, comfort and development of these little patients is in no way influenced by the changes in the integument, and therefore in every case a good prognosis may be given.

### SCLEREMA AND SCLERODERMA

Although no record of histologic examination of scleroderma of the new-born is available, and certain conditions of the skin and the age of the patients are similar in both diseases, yet the majority of the clinical symptoms of either are so pronouncedly different, that a differential diagnosis may readily be made. On the other hand, inasmuch as scleroderma occurs in children and infants which is identical with that of the adult, a separation of the latter under the designation scleroderma "adultorum" is unnecessary. In the light of the preceding review, the diagnosis scleroderma in the case above reported was well

28. Lewin and Heller: Charité Ann., 1894, 19, p. 763.

founded, as was the favorable prognosis, given at the time of the first examination, well justified.

DISCUSSION

DR. HARRIS said he saw the case described by Dr. Lieberthal, which made the fourth or fifth he had seen. He made a diagnosis of sclerema neonatorum. The first case he saw began in the same way. It looked like an angioma, spread over the arms and down the posterior surface of the thighs. The patient ran a temperature of 101-105 F. for six weeks, although previous to that time was perfectly well. This condition began about a week after birth. The child nursed and grew, and a peculiar thing was that over the area involved the lesion became soft. There was a semi-fluctuating area. He opened a couple of areas and pressed out a mass of sebaceous-looking material containing lobules of oil which, under the microscope, was found composed of needle-shaped crystals.

Since then he had seen four other cases, the last one at the Cook County Hospital. This child died. He dissected out a mass of abnormal fat and also normal fat tissue. That was analyzed for him by Dr. Smith of the Illinois University. The fat tissues were similar in regard to the iodin contents. On the other hand, there was a difference in regard to the acidity. The sclerema fat was very acid. It took more sodium hydrate to neutralize it. The fat was rich in fatty acids. In the first case they had disintegration of the fat with a deposition of acids. It was a metabolic disturbance. Instead of having fat laid down in a normal way, it was laid down in the shape of fatty acid crystals. This deposition in the subcutaneous tissue accounted not only for the cyanosis but also for the distinct infiltration. It also accounted for involution of the case. He thought this case showed distinct evidence of change in this fat.

DR. LIEBERTHAL said in reply to the remarks of Dr. Harris that the finding of fatty crystals in the fat of the abnormal tissue of the infant was undoubtedly due to the fact that infantile fat consisted in the first months of two thirds of palmitin and stearin, while olein formed the rest. The latter increased gradually with advancing age, until toward the second part of the first year it amounted to about 65 per cent., as in the adult, while the amount of palmitin and stearin was reduced correspondingly. The melting point of palmitin and stearin is quite high while that of olein is low, namely, at the temperature of the body. The more palmitin and stearin fat contained the readier the same congeals, especially in pathological conditions where fatty crystals are also encountered.

# ACANTHOSIS NIGRICANS FOLLOWING DECAPSULATION OF THE KIDNEYS

## REPORT OF A CASE *

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The question of the pathogeny of acanthosis nigricans and the etiologic factors concerned in its causation is a complicated and obscure one. What little knowledge we have of the subject is based partly on established facts—an accumulation of repeated clinical observations—and partly on conjecture and speculation, with divers inferences drawn from our knowledge of analogous or kindred morbid processes.

The infrequency of the dermatosis and the rather exceptional circumstances attending its provocation in the case forming the subject of this report, makes it an instance worthy of record.

### REPORT OF CASE

A young unmarried woman, aged 25 years, of American birth, consulted me on Dec. 29, 1915, for "itching and discoloration" of the skin of nearly the entire body. She is employed as a buyer of dress materials and works hard throughout the day. Her family history is negative and irrelevant. Excepting minor disturbances, the patient had always enjoyed good health, but is of a pronounced emotional and introspective type. She tires easily and complains of lassitude. The menstrual functions are normal. There is no evidence of tuberculosis or syphilis. Her mentality is good. She is not addicted to alcohol.

Physical examination reveals a well developed young woman, of normal stature and weight, of brunette type. The teeth, hair and nails are well preserved. The visible mucosæ are unaltered and in good condition. There are no abnormalities of the internal organs or those of special sense. The thyroid gland appears to be normal.

On March 10, 1914, after a period of prolonged mental strain, the patient, in a fit of despondency, swallowed a solution said to have contained 7.5 grains of mercuric chlorid. She was promptly attended by a physician, who thoroughly washed out her stomach, after which she was removed to a nearby hospital. The patient's case-history, obtained from this hospital, shows that during her three days' stay there, excepting that she suffered from nerve-shock, her condition was sound. Her urine was normal and not reduced in quantity. Examination of the blood revealed 6,000,000 red blood cells, 6,400 white blood cells, of which 78 per cent. were polynuclear leukocytes and 22 per cent. lymphocytes. Hemoglobin, 85 per cent. There being obviously nothing requiring hospital care, she was discharged.

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* Received for publication June 4, 1917.
* Read before the Twenty-Fourth Annual Meeting of the American Dermatological Association, Cincinnati, May 24-26, 1917.

Not content with this apparently happy state of affairs, she was persuaded by her friends to seek further medical advice and finally consulted a surgeon, who counseled immediate decapsulation of the kidneys. This operation was promptly performed in an out-of-town hospital, on March 16, 1914. The case-record, a duplicate of which was obtained from this hospital, shows that the operation was an uncomplicated one, and that recovery was uneventful. During her fortnight's stay there, her urine was normal.

The patient remained in good health for about a year, until in June, 1915, a severe attack of generalized dermatitis again brought her to the hospital. From her account, one would gather that she suffered from a severe toxic erythrodermia, affecting the entire integument. The onset was sudden and the inflammation of the skin was attended by a pruritus so severe in character that, according to her story, she did not sleep for a week, despite the liberal use of opiates. She was under the care of an eminent dermatologist, whose efforts to relieve her pruritus seemed ineffectual. The acute inflammatory symptoms persisted without abatement for about two weeks, when they gradually began to subside, her skin again returning to normal condition. A few weeks later, the patient noticed that her skin had assumed a yellowish-brown tint, especially noticeable on the neck, in the armpits and groins. The discoloration increased slowly but progressively, until the entire skin, excepting that of the face and hands, shared in the process. Hand in hand with this pigmentary change, the fine lines of the skin all over the body became more distinct, the quadrillations more prominent, the palms and soles became harsh and dry, and brown warty growths made their appearance in the axillæ and groins. During this period she suffered no inconveniences, barring an occasional attack of pruritus.

PRESENT CONDITION. SKIN. The disease implicates the skin of almost the entire body, excepting the upper part of the face, the forehead and the scalp. The palms and soles exhibit a moderate degree of hyperkeratosis with an accentuation of the natural lines and furrows. The skin as a whole presents various grades of discoloration, scarcely noticeable on the hands, face and lower extremities, but quite marked on the neck and trunk, the breasts, the axillæ and the genitocrural folds. The hyperpigmentation varies from a light yellowish brown on the face, trunk and lower extremities, to a brownish-black on the neck, in the axillæ and the groins. The greater portion of the integument presents a marked exaggeration of the natural lines and furrows, together with a peculiar quadrillation or lichenification—an appearance aptly comparable to that of the bark of a tree. There is, however, no palpable thickening or induration; on the contrary, the skin has an uncommonly soft and velvety feel. There is an entire absence of scaling. The furrowing and quadrillation is disposed in a mosaic-like pattern and consists of closely adjacent parallel lines, which have a marked tendency to adapt themselves to the Langer's lines of cleavage of the skin. On the neck, this quadrillated pattern forms a wide, brownish-black, somewhat rugose band, rather well delimited at its upper and lower margins, and forming a collar which completely encircles the neck.

On the chest, back and abdomen the pigmentation is of a yellowish-brown shade, the tiny squares are very distinctly outlined and the furrows are disposed in parallel lines, conforming to the natural folds of the skin. Between the breasts these lines have a general vertical trend; on the abdomen they are horizontal and on the back and buttocks their arrangement varies, harmonizing with the physiologic cutaneous folds resulting from muscular action. The pigmentation and rugose appearance are well marked around the nipples and the umbilicus.

The axillæ and groins exhibit the most pronounced changes. At these sites there are masses of pinhead to lentil sized, closely aggregated, brown to black, soft filliform and warty excrescences, lying in parallel rows in accord with the creases of these flexures. These deeply pigmented papillary growths are quite soft to the touch and possess a peculiar velvety consistence. Their bases are

sessile here, pedunculated there, some of the little tumors attaining a length of a quarter of an inch. They resemble chorionic villi in their gross appearance. In the groins, these papillary hypertrophies are quite abundant. The axillæ and groins are devoid of hair.

On the thighs, backs of the hands and legs the dystrophy is less pronounced than elsewhere, the degree of pigmentation and amount of quadrillation being so slight as to be scarcely noticeable. The mucocutaneous borders and the visible mucosæ are unaffected.

Beside the changes described, the skin of the upper arms and back presents a number of scattered, soft, edematous, glistening papules, about the size of lentils, rather prominently raised above the surrounding skin. Their surfaces are soft, smooth and comparatively depigmented. Ordinary warts, moles, freckles, etc., are lacking.

The patient demurred against the removal of a section of skin for biopsy purposes and objected to being photographed.

From this description it is readily seen that we are dealing with the so-called benign or juvenile form of acanthosis nigricans. The case possesses all the features described in instances of this kind. The main features of the dermatosis are the papillary hypertrophy, the pigmentation, and that the most pronounced changes take place in the flexures — the sites of predilection of the disease. The absence of changes in the mucosæ and of the hair and nails, are characteristic of the benign form. That the disease was ushered in by an attack of severe dermatitis and intractable pruritus, is of great interest, but similar prodromata have been recorded by others.

A table comparing the two forms of the disease is taken from Bogrow's[1] monograph:

TWO FORMS OF ACANTHOSIS NIGRICANS

| MALIGNANT FORM | BENIGN FORM |
|---|---|
| 1. Coexistence of serious disease of the internal organs (chiefly carcinoma). | 1. General health undisturbed or only minor disturbances. |
| 2. Unfavorable outcome as to life. | 2. Fatal outcome never recorded. |
| 3. Disease of short duration. | 3. Unlimited duration. |
| 4. Intensity and widespread distribution of lesions. | 4. Lesions not very prominent and not widespread. |
| 5. Disease shows alterations, exacerbations and remissions, sometimes complete disappearance of external manifestations. | 5. The disease remains almost stationary. |
| 6. Disease develops late in life. | 6. The disease develops in youthful patients. |

BRIEF REVIEW OF RECENT LITERATURE

In view of the comprehensive recapitulation of the literature and the complete tabulation of recorded cases of the disease,[2] anything more than a brief reference to recent publications is out of place here.

1. Bogrow, S. L.: Beitr. z. Kenntnis der Dystrophie papillaire et pigmentaire (Acanthosis nigricans) Arch. f. Dermat. u. Syph., 1909, 94, p. 271.

2. Pollitzer, S.: Acanthosis Nigricans a Symptom of a Disorder of the Abdominal Sympathetic. The Journal Am. Med. Assn., Oct. 23, 1909, 53, p. 1369.

In his paper, Pollitzer collected fifty-two cases of the malady from the literature, briefly analyzing them with especial reference to their relation to malignant abdominal growths. Of thirty-five adult cases, in twenty-eight (80 per cent.) there were more or less positive evidences of associated abdominal carcinomatous growths — "so large a proportion that the relation of acanthosis nigricans to abdominal cancer must be regarded as established beyond question."

In 1912, C. J. White[3] reported a typical instance of the dermatosis, occurring in a child; in the same year Schalek[4] reported another case and noted that sixty examples of the disease had been recorded in the literature up to that year. In 1913 Klotz and Rohdenburg[5] published a description of a case they had presented in the preceding year, before the New York Dermatological Society. In 1915 Markley[6] read the report of his case before the Section on Dermatology of the American Medical Association, incidentally reviewing the question of pathogeny. In the same year, Frick[7] published a paper on the subject, incorporating in it the report of a case under his care. Frick called attention to about two dozen additional cases collected from American and foreign monographs (subsequent to the date of Pollitzer's tabulation of fifty-two cases). This article contains full references to recent publications on the subject, both here and abroad.

### TWO TYPES — JUVENILE AND ADULT

The disease is, of course, a rare one. In round numbers, probably seventy authentic cases have been recorded since it was first described by Pollitzer,[8] and coincidently by Janovsky,[9] in 1890, in the International Atlas for Rare Skin Diseases. Most of the cases have occurred in women between the ages 30 and 50 years. The writer has seen two instances of the disease in over twelve years' dermatologic practice in New York.

Acanthosis nigricans occurs in two forms: a juvenile, benign form, in children and adolescents who usually present no disturbance of the general health, no visceral tumors or other morbid growths, etc.; and

3. White, C. J.: A Case of Acanthosis Nigricans. JOUR. CUTAN. DIS., April, 1912, 30, p. 179.

4. Schalek, A.: Acanthosis Nigricans, with Report of a Case. JOUR. CUTAN. DIS., November, 1912, 30, p. 660.

5. Klotz, H. G., and Rohdenburg, G. L.: A Case of Acanthosis Nigricans. JOUR. CUTAN. DIS., 1913, 31, p. 306.

6. Markley, A. J.: Acanthosis Nigricans as an Indication of Internal Malignancy. Tr. Sect. Dermat. A. M. A., 1915, p. 165.

7. Frick, W.: Acanthosis Nigricans. Report of a Case. N. Y. Med. Jour., July 31, 1915, 102, p. 232.

8. Pollitzer, S.: Acanthosis Nigricans. Internat. Atlas for Rare Skin Dis., 1890.

9. Janovsky: Idem: ibidem.

an adult, malignant form, commonly associated with cancer of the abdominal or other organs. In the juvenile type, the dystrophies of the skin are comparatively mild in nature and moderate in extent and the dermatosis may come to a standstill and remain unchanged for a number of years. In the adult type, on the other hand, variations in the severity and extent of the cutaneous dystrophies are often encountered; sometimes the eruption may subside entirely only to reappear later. The adult cases usually succumb, within one or two years, to the associated malignant disease; in the juvenile cases the cutaneous disturbances seem to exert no marked evil effect on the victims of the disease.

PATHOGENESIS

In his recent paper and in his several discussions following the reading of case reports (Schalek and C. J. White), Pollitzer brings out practically all points of interest and importance which are assumed to have a bearing on the pathogenesis of the disease. In the large majority of cases, the striking feature is the coexistence of some serious disturbance residing in the abdominal cavity — usually a cancer involving one or more of the abdominal viscera, and especially a lesion affecting the abdominal sympathetic system. Several observers have advanced the theory that disturbances — irritations, overstimulation, etc. — of the adrenal and abdominal sympathetics, not necessarily of carcinomatous nature, but possibly in the form of benign growths, congenital malformations, peritoneal adhesions, etc., may at least partly account for the provocation of the disease in children and in adolescents. Darier[10] favored this view, expressed in his "mechanico-nervous" theory of the causation of the cutaneous dystrophies — a view with which Pollitzer concurs. Intra-abdominal pressure from primary or metastatic malignant neoplasms, implicating the nerve structures of the sympathetic system and causing an interference with their normal functions, may be said to play an important part in the causation of the integumentary changes peculiar to the disease in adults.

Spietschka[11] published the report of a case of acanthosis nigricans, appearing in a woman afflicted with a tumor of the uterus, which later proved to be a deciduoma. Six months after a radical operation had been performed, the changes in the skin had entirely vanished. In this instance there was presumably a metastatic growth implicating the abdominal sympathetic or the adrenals, and these metastases may

10. Darier: Dystrophie papillaire et pigmentaire. Ann. de dermat. et de syph., 1893. *Idem:* Sur un nouveau cas de dystrophie papillaire et pigmentaire (acanthosis nigricans). Ann. de dermat. et de syph., 1895.

11. Spietschke: Dystrophia papillaris et pigmentosa. Arch. f. Dermat. u. Syph., 1898, 44, p. 247.

have undergone fibrous degeneration after removal of the primary tumor, thus eliminating the assumed seat of the cutaneous trouble.

That there is some relation between acanthosis nigricans and disturbances of certain internal secretions, is highly probable. Porias,[12] in 1913, wrote a paper in which the matter is discussed from that viewpoint. He believes that the cutaneous alterations result from lesions affecting the ductless glands, the secretions of which are instrumental in keeping the skin in its normal state; and that when certain derangements of these secretions take place, the results may be manifested by cutaneous dystrophies and various pigmentary changes, as occur in Addison's disease.

Among other etiologic factors which have been recorded are cancer of the breast (Kuznitzky[13]); alcoholism (Janovsky,[14] Spietschka,[15] Ormsby[16]); menstrual disturbances, amenorrhea (Spietschka); degeneration of the heart muscle (Burmeister[17]); exposure to intense heat (Janovsky), and to prolonged cold (Crocker[18]). Darier tentatively advanced the hypothesis of autointoxication, the toxin presumably being a product of the associated malignant growth — a hypothesis which is based on too little evidence to justify serious consideration. Pollitzer[19] mentions two instances of the juvenile type of the disease, in one of which there was a deformity of the thorax, in the other the cutaneous changes appeared after a blow in the epigastrium.

To recapitulate: the most tenable theory with regard to the adult cases is the mechanico-nervous theory of Darier:[20] that the cutaneous dystrophies are secondary to derangements of the functions of the abdominal sympathetic, induced by neoplasms of the abdominal viscera and by their metastatic growth. With regard to the juvenile cases and those occurring in young adults, we must for the present content ourselves with the explanation offered by Darier and Jacquet:[21] that in such cases the presence of congenital malformations, benign growths, peritoneal adhesions, etc., in some manner causing an interference with the functions of the abdominal sympathetic system, provokes the cutaneous phenomena peculiar to this malady.

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12. Porias: Wien. klin. Rundschau, 1913, No. 38, p. 671.
13. Kuznitzky: Ein Fall von Acanthosis Nigricans. Arch. f. Dermat. u. Syph., 1896, 35.
14. Janovsky: *Loc. cit.*
15. Spietscha: *Loc. cit.*
16. Ormsby: Discussion of Markley's paper. *Loc. cit.*
17. Burmeister: Ueber einen neuen Fall von Acanthosis Nigricans. Arch. f. Dermat. u. Syph., 1899, vol. 47.
18. Crocker. Diseases of the Skin, Third Ed., 1905.
19. Pollitzer: *Loc. cit.*
20. Darier: *Loc. cit.*
21. Jacquet: Quoted by Janovsky. Mraçek's Handbuch, 3, 97.

How shall we correlate the facts and interpret the findings detailed in the history of this patient? May the changes in the skin be ascribed to the ingestion of the mercury solution, a year prior to their appearance? All things considered, such a conclusion would seem unwarranted and illogical. Are we justified in assuming, then, that the dermatosis is a manifestation directly related to disturbances or impairments of function in the abdominal cavity, in some manner provoked by the decapsulation of the kidneys? To the writer, such a view seems to be a plausible one. It readily conforms to Darier's mechanico-nervous theory, suggesting the intimate relationship between the cutaneous dystrophy and some form of stimulation or irritation of the abdominal or adrenal sympathetic system. As to the manner in which such changes have been brought about and as to the anatomic structures within the abdominal cavity which are directly or indirectly affected — these are questions which, for the present, must remain unanswered. Deductions on these points are essentially conjectural.

We may, however, safely assume one of these possibilities: That the operative procedure has resulted in changes in the circulation, affecting the functioning of the abdominal or adrenal sympathetic, or of the adrenal gland itself; or that adhesions have formed, interfering with the normal functioning of the various tissues which they may implicate; or, that exudates or proliferated fibrous tissues are exerting pressure on intra-abdominal structures which, in some manner unknown, play an important rôle in the causation of acanthosis nigricans.

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## DISCUSSION

DR. SIGMUND POLLITZER said that the reader of this admirable paper had covered the subject so completely, both in the narration of the known facts and in the discussion of the theoretical considerations, that there was very little to be said. The case, so far as he knew, was unique in this respect: we had not a hypothetical injury to the abdominal organs, but a direct and definite injury to them by the surgical operation which preceded the development of the disease. In that respect the case was a very valuable addition to our records of this rare disease and may help to shed some light on its etiology.

DR. RAVOGLI said he had seen two cases of acanthosis nigricans. One was in a woman who had small, black tumors under the breast, under the armpits and she also had cancer of the liver. The second case was a woman who had small granulations or little black tumors between the toes. She had a marked diabetes, with 3 per cent. of sugar in the urine. One of these patients died, and he did not think the other would live long.

DR. SCHALEK said that these cases were so rare that it was interesting to hear another case reported. As Dr. Pollitzer has said, the essayist had covered the ground so well that there was little to be said. There were some points, however, he would like to call attention to. In the first place, was a case of acanthosis nigricans called juvenile because it was not malignant, even if it occurred in a person 20 years of age, or was the essayist trying to cover a different class of cases which possibly did not belong to the real class of

acanthosis nigricans? He did not believe Dr. Wise has said anything about the examination of the abdominal organs and whether there was any pathologic condition. In a case like this he should suspect a malignant growth and would look for it. Sometimes, of course, it could not be discovered in time, because it may not give any indications, but this discoloration and change in the skin may be the first sign of it.

If we considered the many theories that had been put forward as to the cause of acanthosis nigricans, it simply showed that we did not know what the disease was. If Dr. Wise saw a case of acanthosis nigricans following decapsulation of the kidneys, and implied that it was due to it, the speaker said he did not believe that could be proved. He believed it was simply another theory.

DR. WISE said that, in reply to Dr. Schalek's comments as regarded the examination of the patient, she was thoroughly examined by half a dozen internists, as he had stated in his paper, and no abdominal tumor or any lesion was discovered, and that he surmised that we will not be able to find a local etiologic factor until a postmortem was performed. The speaker thought that she will recover spontaneously, her case being of the benign type, which differed from the malignant, chiefly in the following respects: In the benign type the disease had a tendency to spontaneous recovery. The mucous membranes were not affected. There was no cachexia, and the lesions were usually more widespread and usually more persistent. In the malignant or adult form there was generally intra-abdominal cancer or there may be cancer of the breast; the lesions were more malignant and of a precocious character and the patients invariably died. Those were the chief distinguishing features of the two types of the disease.

# Society Transactions

## NEW YORK DERMATOLOGICAL SOCIETY

*Regular Meeting, March 27, 1917*

JAMES C. JOHNSTON, M.D., *President*

MORPHEA. PRESENTED BY DR. MACKEE FOR DR. FORDYCE

The patient, Ruth B., aged 6 years, presented lesions on the right side of the face and neck which were of ten months' duration. They consisted of depigmentated, smooth, firm, flat, shiny, yellowish-white, irregularly bordered but sharply circumscribed patches. One lesion was on the right side of the neck, one at the outer canthus of the right eye, and another extended from the temple down to and joining the neck patch. The edges of the patch showed telangiectatic vessels.

SCLERODERMA (SCLERODACTYLIA TYPE). PRESENTED BY DR. HOWARD FOX

The patient, L. W., a woman, aged 48, was born in the United States. She was one of seven children. Her mother and one of her sisters had died of "lung trouble." No similar disease had ever affected any member of her family. She had suffered from various diseases of childhood, including measles, scarlatina and mumps, but with these exceptions had always enjoyed good health until a year ago, when the present affection appeared. She first noticed rheumatic pains and stiffness of the fingers, knees and left hip. It was not until about six months ago that a condition of tight skin was apparent to her. During the past six months she had also lost a large amount of hair, which had previously been fairly thick. She gave no history of attacks of Raynaud's disease. Examination showed a marked condition of hidebound skin, most pronounced on the hands and forearms. In comparison with a normal individual, it was evident that there was also a certain tightness of the skin of the arms, face, neck, chest and legs, from the ankles to the knees. The skin of the fingers and hands was unnaturally hard and exceedingly tight, interfering with movements of the joints. None of the fingers could be entirely flexed or extended, and movement of the wrist was impaired. There was considerable contracture of both little fingers. The patient appeared to be in fair general health, weighed 115 pounds, and was of medium height. She was mentally active, her pulse was not abnormally fast, and she showed no tendency to dry skin. There was a small cystic enlargement of the left lobe of the thyroid gland. Some of the fingers showed slight areas of necrosis on their tips. It was not possible to produce attacks of "dead fingers" by placing the hands in cold water or on ice.

DISCUSSION (BOTH PATIENTS)

DR. SCHWARTZ said that he had had the little girl under observation for some time, and had made a glucose tolerance test. She had a glucose tolerance of 90 gm., but he could not say if this was abnormal as he did not know the tolerance for glucose in a child of that age. She had been treated with pituitary tablets made by Rogers, and there had been a definite change in the condition of some of the lesions.

Referring to the case of sclerodactylia, he said that he had under observation a similar case with destructive lesions on the ends of the fingers, more

marked than in this case. The patient has a glucose tolerance of 250 gm., but she had been under treatment for only two weeks, so that no particular change had taken place. These cases of scleroderma and morphea had all shown distinctly decreased glucose tolerance, and it would seem that this was a constant feature of the disease.

DR. WISE said he was anxious to get the little girl under appropriate treatment, and would like to have Dr. Johnston outline the proper treatment with pituitary solution. The child was going from one clinic to another, and unless some definite relief was given her, she would probably also slip away from his care.

DR. MACKEE asked for the indications for prescribing pituitary solution and for thyroid. Were the glandular extracts administered empirically, or was there a definite indication for a single or a polyglandular extract?

DR. JOHNSTON said that he did not give thyroid at all, as he, like others, had failed entirely with it. He gave pituitary solution with thyroid, however, as an adjuvant. This use was not empirical, for it followed the ordinary indications for the exhibition. Last summer Dr. Schwartz saw a case for him of circumscribed scleroderma on the left chest of a young man, which had appeared within two months and was as big as a man's hand. In giving pituitary solution, there was a tremendous disturbance as soon as the patient reached a daily dose of six 2-grain tablets of whole gland. The onset was attributed to fatigue from overwork, which possibly had affected the pituitary gland. The dose was at first decreased, but now the patient was able to take up to ten or eleven tablets without congestive headache. The lesion was greatly reduced in size and the skin, where resolution had occurred, had almost a normal appearance. The scarring was slight.

The speaker said that he has always used Burroughs & Wellcome's preparation, for he had started with it and found it very satisfactory. The patient first treated was entirely well except for diffuse patches on the wrists and ankles; there was nothing on the body. He had not used the pituitary solution prepared at Cornell, simply because of the inconvenience to the patient. It was not on the market. So far as he had learned, there was only one indication that the dosage had reached its maximum, namely, the congestive headache that came on at 10 or 12 a. m.

DR. MACKEE asked if there were any nervous symptoms.

DR. JOHNSTON replied in the negative; so far as could be judged by the manometer, there was no increased blood pressure. So far as he knew, there was no contraindication to its employment.

DR. SCHWARTZ said that Dr. Rogers prepared two extracts of pituitary solution, one being the residue and the other the active principle of the gland. He gave the one because he expected to get very prompt results from it, and in cases in which the gland was apparently very greatly diseased, he could get effects from the residue because the gland did not have to do any chemical transformation of the nucleoprotein before it could exercise the therapeutic influence. He gave from 5 to 15 drops from four to six times a day, and did not have any increase of tension.

DR. GEORGE H. FOX, on request, told of a case which he had presented before the Society a number of years ago, which had aroused a great deal of discussion at the time. The patient's skin was darker than normal, but was apparently unchanged except that the subcutaneous tissue had disappeared, and it was a question as to whether it was a case of atrophy or scleroderma. There was, however, a hidebound condition all over the body, as if the skin had shrunken. Crocker saw the patient in London and made the diagnosis of scleroderma.

DR. HOWARD FOX expressed the opinion that the use of extracts made the treatment of scleroderma more hopeful. Dr. Johnston had had good results with pituitary extract, and Dr. Weiss had achieved a brilliant result with small

doses of thyroid extract. The speaker said that he felt as Dr. MacKee, that one ought to look for symptoms of deficiency in these glandular secretions. In his case some of the principal symptoms ascribed to thyroid deficiency were not present, including dry skin, rapid pulse, thinning of the hair, and tendency to adiposity. He asked Dr. Johnston's opinion regarding the best method of treating this case.

DR. JOHNSTON replied that the chance of improving the condition of the patient was good, but that care would have to be observed in one point which he had failed to mention. If intestinal putrefaction or fermentation was present and grave enough to produce symptoms of its own, it seemed to interfere with the therapeutic action of the organs, given by mouth. The type presented by this woman was likely to show a high grade of intestinal fermentation, and until that was improved she would probably not get much benefit from organotherapy. He would not advise giving thyroid, seeing no indication for that. If after administering pituitary solution for a reasonable length of time, the results were not satisfactory, then thyroid might be tried; but he himself had given it faithfully and had not seen any good results from it.

DR. HEIMANN asked if Dr. Johnston thought it possible to conceive of thyroid deficiency leading to a belated cretinism, localized or general. That might give a clinical picture resembling the early stage of scleroderma, and that might form the group that responded to thyroid, whereas the other would form the group responding to pituitrin therapy.

DR. JOHNSTON replied that cases occurred in which the patient showed not exactly cretinism, but hebetude, a lax, expressionless appearance of the whole countenance.

## WHITE SPOT DISEASE OR LICHEN PLANUS ATROPHICUS. PRESENTED BY DR. WHITEHOUSE

The patient was a young woman, aged 19, who developed an eruption two years ago over the clavicles as white spots that were not itchy at first. Some had disappeared and new ones had developed. About six months ago, similar lesions appeared on the upper part of the back and the back of the neck. Little scales would form on top, white and shining, leaving a white spot of atrophy on resolution. The spots varied in size from pinhead to one-eighth inch in diameter. The scaling and irritation would seem to suggest lichen planus, but the location would suggest white spot disease. The speaker asked for suggestions as to therapy.

### DISCUSSION

DR. WISE agreed with the diagnosis of white spot disease, and said that instances of the disease had been described in the literature in which the white spots were preceded by papules, nodules, crusts, and even by vesicles, so that this crusted appearance was not against the diagnosis as presented by Dr. Whitehouse.

DR. WINFIELD said that from the little he knew of white spot disease he would agree with that diagnosis.

DR. MACKEE said it was difficult to differentiate between white spot disease and lichen planus sclerosus in these cases. In this instance, the location, the inflammatory border and the absence of umbilication, together with the inequality in the size and shape of the lesions, would suggest the possibility of white spot disease.

DR. WHITEHOUSE said that when he first examined the case he made a diagnosis of white spot disease; lichen planus atrophicus had been suggested by others, and he had presented the case to have the diagnosis clarified and to see what could be done for the patient—whether the remedies spoken of or other therapeutic measures would avail. The patient was a young girl and had had this disfiguring condition for years, and was anxious to be relieved of it.

DR. JOHNSTON said that the therapeutic result would not be very good anyway, for the scars would remain. Dr. Sherwell had treated two cases with a paste of resorcin, with which the white spots were shelled out, but atrophic scarring remained.

DR. WISE said that Dr. Wallhauser claimed to have treated two cases successfully with $CO_2$ snow.

DR. JOHNSTON said the scars from the $CO_2$ treatment would be worse than those of the disease. If, as some supposed, white spot disease was related to scleroderma, it might be well to see if the former showed any pituitary lack. Probably the result would be a better looking neck than without pituitary solution.

## EXTENSIVE LUPUS VULGARIS. PRESENTED BY DR. HOWARD FOX

The patient, Martha J., was first shown before the Society in May, 1916. She was presented again to show the results on the face of treatment by high-frequency cauterization. Large elevated masses had been entirely flattened with a fairly good cosmetic result. Sparks of a one-quarter inch from a metal electrode were used, without a local anesthetic. In order to destroy the lesions, it had been necessary to cauterize their surface at least twice.

### DISCUSSION

DR. MACKEE said the result was excellent. Probably Dr. Fox would find the fulguration method more efficacious in hypertrophic than in atrophic lupus, although in the latter cases the application could be made to the apple-jelly nodules, but there would not be so quick a result and the applications would have to be made more frequently. He thought that the lesions on the leg of this patient would be more difficult to treat, and that they would not disappear so rapidly as in the hypertrophic type. Fulguration treatment had been much neglected. It was a painful treatment and the patients did not like it unless they had some encouragement, but if used properly many cases could be cured. It was difficult to overcome the pain; cocain will not do it. The patients suffered almost as much with it as without it.

DR. HOWARD FOX agreed with Dr. MacKee that the high frequency cauterization was a valuable method of treatment in a number of skin diseases and was not used as frequently as it should be. Dr. Fox had been experimenting during the past year with three destructive agents—the high-frequency cauterization, radium, and the galvanocautery. He had compared the effects in various keratotic conditions, including Darier's disease, tuberculosis of the skin, and ordinary warts. He felt that the high-frequency cauterization was a much more valuable agent than the galvanocautery. He would report his results with radium later.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. WINFIELD

The patient, a young man, aged 29, was born in Germany. He was a worker in brass, engaged in making chandeliers. Five years ago he noticed a patch on the right thigh, which was hard, slightly scaly and very itchy. This was followed by similar patches, and they increased in size and number until nearly the whole body was covered. When first seen, last May, his skin was thickened, slightly scaly, of a bright red color and was slightly itchy. He was under observation for a month, and was then lost sight of and did not reappear until recently. No positive diagnosis had been made, although several conditions were considered—parapsoriasis or possibly a premycotic condition. He had been working in the brass factory for six years; whether or not that played any part in the condition could not be stated. The young man seemed to be in perfect health otherwise; his digestion was good and his bowels regular.

The speaker said that he also had under observation another case, almost similar, but had not been able to help the patient very much. In this instance,

the man was 55 years of age, a broker, and a man of magnificent physique and perfect health otherwise. He was first seen last summer, and at first it was thought to be a case of mycosis fungoides. This patient, before the Society, suffered from itching, but it was easily controlled; no atrophy had been observed. There were patches of infiltration. The older man had had his trouble for years; it did not get any worse, nor did it get well.

DISCUSSION

DR. WISE said the only diagnosis he could think of as applicable to the exanthem would be mycosis fungoides. A microscopic section would, in all probability, clear up any doubts as to the true nature of the lesions.

DR. KINGSBURY said that mycosis fungoides should be excluded before making a positive diagnosis. The first thing to be determined was whether the patient had itching. If so, mycosis fungoides could not be excluded. Many points that at first seemed atrophic were scaly, and yet other points on pressure seemed to be atrophic.

DR. GEORGE H. FOX said that the general appearance of the eruption and the fact that a similar condition of the skin was often seen preceding the tumor state of mycosis, and often existing with the tumors, would indicate that in the course of time the case will turn out to be mycosis fungoides.

DR. WILLIAMS thought it was a premycotic condition.

DR. HEIMANN said there were several things to be considered: (1) the early stage of mycosis; (2) leukemia in its quiescent stage, and (3) erythroderma exfoliativa of the Wilson-Brocq type, with fine scaling. The last should be seriously considered, for the man had had the condition for five years and it had not progressed as it would have done had it been anything else except perhaps mycosis. The itching ruled out the parapsoriasis group. All in all, it might be any one of the three conditions mentioned. Dr. Winfield would probably have to wait and watch developments before being able to reach any rational conclusion.

DR. MACKEE said that the eruption had been present for five years, during which time not a single lesion has undergone involution. The patient complained of occasional, not constant, itching. On these grounds, he favored a diagnosis of parapsoriasis in plaques.

DR. WINFIELD said that when he first saw the patient he thought the condition was premycotic. Later, the diagnosis was changed to parapsoriasis, which seemed to be the more likely at the time of presentation. The other patient of whom he had spoken had almost exactly the same condition, only the patches were smaller, and that was undoubtedly a case of parapsoriasis.

DR. JOHNSTON told of three cases he had seen in Edinburgh, in 1898. They were pronounced parakeratosis variegata (parapsoriasis) without an instant's hesitation. In the course of time, every one of them developed the tumors of mycosis fungoides.

DR. WINFIELD said that a patient had been shown here a few years ago as a case of parapsoriasis, and a few years later some one else presented the same patient as a full-fledged case of mycosis fungoides.

## LUPUS ERYTHEMATOSUS AND EPITHELIOMA OF THE LIP.

PRESENTED BY DR. SCHWARTZ

The patient was a male adult. The lupus erythematosus of the face and lips was of fifteen years' duration, but the complication on the lip was somewhat unusual. The diagnosis of epithelioma had been confirmed by biopsy.

DISCUSSION

DR. G. H. FOX had treated this patient some years ago, using curettage on one cheek and liquid air on the other. He had always been deeply impressed by a remark the late Dr. Allen used to make about curettage, namely, to always

begin from the outside healthy skin and scrape inward, otherwise the inflammation caused was apt to spread the disease. The speaker said he could corroborate that advice. In that way, the lesion was destroyed and a smooth scar was left, the result being much better than when liquid air or $CO_2$ snow was employed.

DR. MACKEE said that he had noted a large area of atrophy, the remains of the lupus erythematosus, which had been clinically cured as a result of the radium application. Radium, he said, was very efficacious in the treatment of lupus erythematosus of the discoid type. In this case, the epithelioma was also being markedly benefited by the treatment. He was under the impression that not more than ten or fifteen cases of lupus erythematosus had been reported, associated with epithelioma.

DR. WINFIELD said that the case presented a very interesting combination which he had not seen before.

## SUPERFICIAL LUPUS VULGARIS OF SERPIGINOUS TYPE. PRESENTED BY DR. HOWARD FOX

The patient, Mrs. L., had been presented at the last meeting. Dr. Heimann had reported on the histologic section as follows: "The epidermis shows no change of importance. The cutis contains an infiltration made up of tubercles, showing a structure characteristic of either tuberculosis or syphilis. The latter diagnosis may be excluded by the absence of changes in the vessels indicative of this disease, absence of lepra cells and bacilli, absence of polymorphonuclear leukocytes. No tubercle bacilli were found. Diagnosis by exclusion: tuberculous cutis."

### DISCUSSION

DR. HEIMANN said that on the same day that he received the specimen from Dr. Fox, he received another specimen from Dr. Clark, taken from the leukemic patient shown at the last meeting. Dr. Fox's case was tuberculosis microscopically, and the leukemia case looked even more so. That showed how difficult it was to make a hard and fast diagnosis of these things, and he was beginning to feel very much confused in his standards regarding the diagnosis of the inflammatory and the noninflammatory granulomata.

DR. HOWARD FOX asked if Dr. Heimann's diagnosis of his case was tuberculosis; to which Dr. Heimann replied in the affirmative.

## UNUSUAL FORM OF SYPHILIS. PRESENTED BY DR. SCHWARTZ

The patient, Margaret M., aged 44, was married and was first seen March 5, 1917. The patient's sister and daughter both suffered with goiter. Nineteen years ago, the patient had a palmar eruption and sores at the corner of the mouth; the husband was also ill at that time. The patient was treated for a period of six months with internal medication. Later, she learned that both she and her husband were suffering with syphilis. She stated that she had always felt nervous and weak since that time. She had had indigestion for several years. She drank six cups of coffee and two cups of tea daily; slept well; bowels were always regular; appetite was good. She had three children and one miscarriage.

Twelve years ago the patient first noticed a swelling of the right side of the neck. This swelling increased fairly rapidly for four years, and for the past eight years has been increasing in size very gradually. One year ago, the left side started to swell. She suffered with nervousness and weakness, and had occasional choking sensations. Patient was fairly well nourished; she weighed 131½ pounds. There was a swelling of the right lobe of the thyroid to a diameter of about 3 inches; the skin over the swelling was very tense. In the midline and extending to the left, there was another swelling of about 1 inch in diameter. The consistence of the swelling on the right side was that

which one found in the usual Graves' disease; on the left side the tumor was firmer. The circumference of the neck was 14½ inches.

Heart: rate, 128; force, slight; poor muscular sound; faint systolic murmur at apex, not transmitted. There was distinct tremor of hands and head. Urinalysis was negative. The Wassermann reaction was ++++. Treatment: hydrargyri bichlor., 1/16 grain; potassium iodid, 10 grains; t. i. d., p. c.

March 12, 1917, one week following the foregoing treatment the patient said she felt very much stronger. March 19, 1917, the pulse rate was 99. The patient felt stronger and was able to do her washing, which she had been unable to do for several months. The circumference of the neck was 13¼ inches. The skin over the tumor was much looser. March 26, 1917, the pulse rate was 120 (patient was excited by the serious illness of a member of the family). The circumference of the neck was 13⅛ inches.

DISCUSSION

DR. HEIMANN said he was inclined to group all symptoms existing in one individual as due to one underlying cause. The rapid response to antispecific treatment would seem to indicate that syphilis was the cause of the enlarged thyroid. He suggested that the treatment be carried out without iodids.

DR. JOHNSTON said that palpation of the neck would lead to the suspicion that the affection of the thyroid was syphilitic. The growth was hard and nodular, not like that of the cystic variety.

DR. WHITEHOUSE agreed with the point made by Dr. Johnston, that the lobulated character of the growth was not that of goiter. As Dr. Heimann had said, one form of syphilis of the thyroid conformed with these conditions, and that, connected with the distinct improvement, would seem to be sufficient evidence that the whole process was syphilitic. He agreed with Dr. Johnston's conception of the case.

DR. WINFIELD said that he had recently seen a case of gumma of the thyroid which presented many of the features of Dr. Schwartz' case. The treatment was iodid of potassium and mercury, but the recovery was not so rapid as in this case.

DR. SCHWARTZ said he recognized the fact that the patient might have syphilis and goiter as well, and they were not convinced that it was syphilis of the thyroid until the patient experienced the marked improvement under mixed treatment, the marked diminution in the size of the thyroid and improvement in the general health, the slowing of the pulse, etc. If this was the case of thyroid disease in a syphilitic, it was clearly a case of hyperthyroidism, as shown by the marked tachycardia, tremor, etc. In such cases, the iodid would rather have aggravated the symptoms than have improved them. In consequence, he thought the diagnosis of syphilis of the thyroid was justifiable.

DR. WINFIELD said his case had not improved on thyroid, but had improved under mixed treatment.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. WHITEHOUSE

The patient was a man, aged 45. Fifteen years ago he had a right cervical adenitis, which resolved without operation or breaking down. Six months ago he was cut with a razor on the left cheek, while shaving. It did not heal, and a "pimple" formed which was pricked and squeezed. The lesion enlarged and was opened by a physician, but there was no pus. The lesion consisted of a circular raised plaque, an inch in diameter, pultaceous in consistence, perfectly smooth, of the so-called "apple-jelly" color, with telangiectasia coursing over it. It was situated at the line of the lower jaw. There were no subjective symptoms. The patient denied syphilis, but his wife had had three miscarriages at five, six, and seven months.

DISCUSSION

DR. WISE thought that the lesion was either syphilitic in character or was a "button" epithelioma—the latter diagnosis being based on the size, age, hardness, etc., of the tumor, and on the presence of telangiectases at its lower border.

DR. GEORGE H. FOX said that the patch might be epithelioma or tuberculosis, but it looked very much like many cases that he had seen disappear quickly under potassium iodid.

DR. WILLIAMS said that the lesion appeared to him to be tuberculous, but he would not call it lupus. He had seen several cases in the last few years presenting a similar appearance and proved by biopsy to be tuberculous. They were dull red, slightly scaly, chronic inflammatory processes, sometimes without distinct nodules, seldom ulcerating except very superficially, very sharply outlined.

DR. JOHNSTON said that Dr. Williams' suggestion, tuberculosis, seemed to be a more reasonable supposition than syphilis.

DR. MACKEE said that he felt very much about the case as Dr. Williams did. It had impressed him as tuberculous on account of the nodules embedded in the mass, and the waxy or semitranslucent consistency of the tissue. The rate of growth was rather rapid for tuberculosis. Before making a diagnosis it would be necessary to rule out syphilis. Tentatively, however, he favored a diagnosis of tuberculosis.

DR. WHITEHOUSE said that he was glad to have these expressions of opinion in regard to the condition. His own first impression was of possible tuberculosis, and that was why he wanted a biopsy. Now, he would make further investigations to exclude syphilis. The color by daylight and the entire character of the condition had impressed him as being tuberculous. A suggestion had been made as to the possibility of the condition being due to the teeth. Some time ago, he had had under observation a somewhat similar lesion which had not broken down and which he had felt sure was a scrofuloderma. A roentgenogram of the lower jaw was taken, and trouble was found in the alveolar process which caused a low grade inflammation extending to the cheeks, which had not discharged, but had kept up this curious granulomatous enlargement. It had a pultaceous character, very much like the present case. The speaker said he had not taken the Wassermann test, but would do so and make a therapeutic test.

PURPURA ANNULARIS TELANGIECTODES. PRESENTED BY DR. MACKEE FOR DR. FORDYCE

The patient, F. M., was a laborer, aged 64. There was a history of penile chancre thirty years ago, but no history of later manifestations of syphilis. The patient claimed that for the past twenty or thirty years there had been repeated attacks of red spots and rings on his legs. When presented before the Society, there was an eruption on the legs, thighs and buttocks, which consisted of grouped hemorrhagic or telangiectatic puncta. These groups ranged in size from a lentil to a dime, and contained from a half dozen to a hundred individual elements. The groups were rather sparsely distributed over the legs. There were a few circinate lesions which were most marked on the buttocks and thighs. They ranged in size from a dime to a silver dollar. The margin was composed of the red puncta while the center was a yellowish-brown color. Here and there, over the legs, could be seen yellowish stains, the remains of previous lesions. There was no distinct atrophy. There were no varicose veins, nor eczema. The result of the Wassermann reaction had not been ascertained when the patient was presented. The main histologic changes in the tissue studied was a numerical increase of the vessels, a moderate round cell focal infiltration, a thickening of the vascular walls and the pigmentary remains of hemorrhage. There was no degeneration.

DISCUSSION

DR. HEIMANN said that clinically the case agreed with his conception of Majocchi's disease. Recently Dr. Rosen had brought a specimen of tissue to the Vanderbilt Clinic which he said was purpura annularis, and microscopically it looked so. The other day, Dr. Goldenberg had sent a specimen and it looked like purpura annularis, yet on examining both cases clinically they did not look like the speaker's conception of purpura annularis. Nevertheless, the microscopic picture of these two cases and others that he had seen, all looked alike. The speaker said he could conceive of a vascular disturbance due to inflammation of the vessel wall; though clinically they might assume different appearances, they might look alike microscopically. In connection with this, Stokes published a paper on syphilitic telangiectasia of the skin, and they looked enough like these to make one think that all were generically alike, although clinically they were not.

DR. MACKEE said that it was not always easy to make a diagnosis of purpura annularis telangiectodes. In well-marked examples of the disease there was no difficulty in arriving at a conclusion, but in borderline cases, justifiable confusion was likely to occur. Grouped puncta and annular lesions might occur in ordinary purpura, but the evolution and involution would be very short. Hemorrhagic and telangiectatic puncta, discrete and confluent with annular lesions, might occur in association or secondary to varicose veins and chronic eczema of the legs. Here, the history of repeated attacks with long periods of quiescence, and the fact that the condition was distinctly secondary to a varicose eczema, would allow of clinical differentiation. Histologically these borderline cases might show many of the changes found in Majocchi's purpura; although in a well-marked example of purpura annularis telangiectodes, if tissue were obtained from lesions in different stages of evolution one would encounter a histologic picture that was fairly distinctive.

In reply to a question from Dr. Fox, the speaker said that the disease was not essentially a purpura but a telangiectasia, and for this reason Majocchi had suggested the name of telangiectasia follicularis annulata.

DERMATITIS HERPETIFORMIS. PRESENTED BY DR. WISE FOR DR. FORDYCE

The patient, Ellis K., a chauffeur, aged 36, was born in the United States. The lesions were located on the back, arms and legs, and were of seven years' duration. In the locations named, were a large number of grouped papular, urticarial and vesicular lesions, associated with more or less scaling and pigmentation. On each buttock was a batwing shaped area of yellowish pigmentation. There were vesicles on the face and scalp. The disease had come and gone for the past seven years. The cutaneous food inoculation tests were to be performed on this patient by Dr. Schwartz.

NEVUS LINEARIS VERRUCOSUS. PRESENTED BY DR. WISE FOR DR. FORDYCE

The patient, Edward S., aged 26, was born in the United States. The duration of the disease was twenty years, the lesions being on the left thigh, in the femoral region, on the scrotum and perineum. They were said to have started at the age of 8 years. The inner side of the left thigh was affected, beginning half an inch below the cruroscrotal fold, extending 6 inches directly downward in a horizontal fashion, the upper part being pear-shaped, about three-fourths inch wide, and slowly tapering down to the size of a lead pencil. The upper portion contained a comparatively unaffected central portion, forming a little eccentric island within it. The lower portion was composed of three roughly oval lesions with raised borders and normal interiors. The borders were distinctly verrucous, while the interior was absolutely unchanged. In the popliteal space was a lesion three-quarters by half an inch in size, somewhat

circinate, with a clear center and verrucous border. On the right side of the scrotum, on the posterior surface, was a verrucous patch, the size of a five cent piece, composed of four or five flat warts. On the right thigh was a flat, warty patch, the size of a dime, and adjacent to the cruro-scrotal angle. The entire lesion was verrucous.

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## MANHATTAN DERMATOLOGICAL SOCIETY

*Regular Meeting, Jan. 12, 1917*

FRED WISE, M.D., *Chairman*

### CHANCRE OF NOSE. PRESENTED BY DR. KINGSBURY

The patient was an adult woman, who showed an initial lesion of the columella of the nose. She had enlarged glands and a macular eruption over the chest and abdomen.

### SYPHILIS OF THE MOUTH. PRESENTED BY DRS. MACKEE AND ROSEN

The patient was a man aged 53, watchman by occupation, and came from Dr. Fordyce's clinic. The duration of the lesion was nine months. The past history was negative. He showed a verrucous lesion of the commissure of the mouth, involving both the skin and the mucous membrane of the cheek. The Wassermann reaction was + + + +.

### BENIGN CYSTIC EPITHELIOMA. PRESENTED BY DRS. MACKEE AND WISE

The patient was a woman, aged 24, from Dr. Fordyce's clinic. The duration of her eruption was fifteen years. It was limited to the lower eyelids and adjacent portions of the cheek and consisted of pin-head to split-pea sized, opaque, firm papules, possessing the color of normal skin. The histopathology was that of benign cystic epithelioma.

#### DISCUSSION

DR. MACKEE, in reply to an inquiry regarding treatment, said that the roentgen ray, radium, solid carbon dioxid and trichloracetic acid all gave good results in these lesions.

### XEROSIS ASSOCIATED WITH EXTENSIVE KERATOSIS PILARIS. PRESENTED BY DRS. MACKEE AND WISE

The patient was a boy, aged 12 years, and the history was of one week's duration, but the speaker said that in all probability this was erroneous. The patient, who was from Dr. Fordyce's clinic, showed a follicular condition all over the body, resembling keratosis pilaris and if one looked at the case closely there was a generalized xerosis. The speaker did not know exactly what to call the case, but there was a possibility of its being one of those types described by Macleod as ichtyosis follicularis. This case did not conform in all particulars to the three presented by Macleod and was probably a very extensive keratosis pilaris and a xerosis.

#### DISCUSSION

DR. MACKEE said that while he made a tentative diagnosis of ichthyosis follicularis, it did not seem to conform with the three cases presented by Macleod. His three cases were absolutely congenital, in one family, with total baldness, and no hair on any part of the body. This was simply a widespread keratosis pilaris and one of the congenital keratodermata. It was often associated with ichthyosis and in this case was associated with xerosis. The roentgen ray

would remove the lesions for the time being, but they would return and even long continued treatment would not produce a permanent cure.

## TUBERCULOSIS CUTIS AND SYPHILIS. PRESENTED BY DR. PAROUNAGIAN

The patient was a man, aged 33, an Armenian. His family history revealed that his father was living and his mother was dead, and that she had had a cough and was sick for a long period. His personal history was negative and venereal infection was denied. He was first seen by the speaker in August, 1915, and then had a number of lesions on the neck, above and below the clavicle, on the sternum, in both axillæ and the right leg, extending from the knee to the ankle. There were some active lesions, but mostly pigmented and depigmented scars. He stated that the condition began about five years previously and that he had two salvarsan injections without any benefit. His Wassermann reaction in August, 1915, was negative. The condition for which he was presented was a lesion on the tip of the nose, which appeared about five weeks ago. As the process was progressing rather rapidly, syphilis was suspected and a Wassermann examination made, the result of which was + + +.

A biopsy made from the leg lesion, subsequent to the presentation, showed a distinct tuberculous structure.

### DISCUSSION

DR. GOTTHEIL thought the entire condition syphilis, with a syphilitic adenitis and also the scars in the axillæ. He showed a photograph to the Society of a syphilitic adenitis like the case presented.

DR. OCHS said he agreed with Dr. Gottheil and thought the case was syphilis and that the man had had insufficient treatment. He thought that if he had more treatment the whole thing would clear up.

DR. OULMANN said that scrofuloderma, showing such extensive processes, as in this case, was seen only in children. If one could think of anything of a tuberculous nature on the legs, it would be Bazin's disease, but the inflammatory process was entirely missing. He thought the process was syphilis.

DR. MACKEE agreed with Dr. Gottheil. One could not be certain about the trunk lesions as there was nothing there to judge by, excepting the scars, but he thought the entire process was specific.

DR WISE said it was his impression that the scars on the legs were the result of tuberculous disease, but the rest of the lesions were syphilitic.

DR. GOTTHEIL thought that a three and one-half and four plus Wassermann reaction seemed an unnecessary refinement. The best men said markedly positive or slightly positive and the condition of subdividing reactions was perfectly useless.

DR. PAROUNAGIAN said that he regretted that he was alone in his diagnosis of tuberculosis and syphilis existing in the patient. However, he still believed that the nose condition was syphilitic and the lesions on the lower extremity, and the glands of the neck and axillæ were of tuberculous origin. The slow course of the disease, not yielding to salvarsan, was rather against the diagnosis of the whole thing being a syphilitic process. He was going to administer several salvarsan and mercury injections and present the patient at a later date.

## MORPHEA. PRESENTED BY DR. PAROUNAGIAN

The patient was a woman, aged 32, born in Hungary, who presented two lesions of morphea, one on the forehead and the other on the chest. The forehead lesion involved the scalp as a wide band of hide-bound skin with alopecia. The speaker showed the case because he wanted her seen by the Society before he followed the plan of treatment in Dr. Weiss' case. The lesion on the chest was just below the sternum. The case would be presented again to show the result of treatment.

DISCUSSION

DR. WEISS, in reference to thyroid medication in this case, remarked that he more than hoped that this patient would be benefited by thyroid treatment, because she exhibited signs of hypothyroidism or rather symptoms of thyroid instability. She had premature grayness, caloric disturbances, such as cold extremities, chilliness, especially after meals, hypersensitiveness to cold. Her skin was dry and scaly, she suffered from painful menses, felt constantly tired, etc. In these cases of thyroid deficiency only did thyroid treatment do well, and this explained why some cases of psoriasis, morphea or infantile eczemas were cured and others were not. Only by substitution therapy could they expect results. Psoriasis had a multiplex etiology and it seemed as if this affection would be a thyroidotropone, that is, in close connection with the physiology and pathology of the gland. Thyroid extract did not cure all patients affected with these dermatoses, unless they exhibited symptoms of thyroid insufficiency. In some cases a slight thyroid instability was associated with a concomitant hyperthyroidism or with other endocritic symptoms. The study of such cases was a very difficult one, but fraught with great possibilities for good.

NEVUS UNIUS LATERIS. PRESENTED BY DR. PAROUNAGIAN

The patient was a small boy, aged 11 years, born in the United States. He had had the condition since birth. There was a linear, verrucous lesion which was located on the right side of the body, beginning on the neck, and involving the axillæ, the back, the dorsal surface of the hand and flexor surface of the elbow.

TINEA CIRCINATA OF UNUSUAL LOCATION. PRESENTED BY DR. PAROUNAGIAN

The patient was a little girl aged 8 years, born in the United States. The duration of the condition was about a week. The lesions were circinate and scaly, some round, and others oval in shape and slightly itchy. They were located about the neck, axillæ, inguinal and popliteal regions. The scalp was free from seborrhea, and as the speaker saw the case only a few minutes at the Gouverneur Dispensary, no microscopic examination was made, although a specimen was obtained. The case was such that clinically it could be diagnosed as a seborrheic eczema or ringworm.

Microscopic examination revealed tinea.

DISCUSSION

DR. WISE said that Sutton showed an illustration of a case of seborrheic eczema, which resembled very much the one presented.

LABIAL CHANCRE. PRESENTED BY DR. PAROUNAGIAN

The patient was a man, aged 23, born in the United States, a plumber by occupation. The history was very vague. He presented a large, indurated sore, quite infiltrated and circular in shape. It was located on the lower lip, near the right angle of the mouth. He claimed that about Dec. 11, 1916, he was bitten by a woman and shorty after that, the lesion developed. The patient was referred by his physician for treatment. His Wassermann reaction was ++++. He had extensive adenopathy but no roseola. He had received two injections of salvarsan in five days, and as a result of the same, the lesion was much smaller than when first seen, which was six days before being presented.

LICHEN PLANUS BENEFITED BY SALVARSAN. PRESENTED BY DRS. MACKEE AND ROSEN

The patient, Florence N., aged 30 years, was born in New York City, and came from Dr. Fordyce's clinic. She presented a generalized eruption, consisting of lichen planus papules. The lesions on the forearms were small,

conical and capped with a fine scale, resembling lichen ruber acuminatus. Some of the lesions were arranged in linear bands. On the thighs, abdomen and lower extremities some of the lesions were arranged in mosaic-like figures, others again were beginning to be hypertrophic. The color was violaceous. The patient was given salvarsan intravenously up to the time of presentation. She had had two injections of 0.3 gm. each. The improvement was very marked.

DISCUSSION

DR. MACKEE regarded the case as one of lichen planus with involvement of the hair follicles. Under the microscope it showed lichen planus and he did not think it was lichen ruber acuminatus. This follicular involvement had been described by Dr. Fordyce a number of years ago.

DR. WISE said that the occasional co-existence of lichen planus and lichen ruber acuminatus were mentioned by Unna and by Rothe. In the case presented, the follicular keratotic lesions on the forearms certainly did not resemble lesions of lichen planus, but rather those of Dévèrgies' disease.

DR. MACKEE said the histology of the lesion was certainly that of lichen planus. When serial sections were followed the lichen infiltration was seen to leave the hair follicle and spread out under the epidermis just as in ordinary lichen planus. Lichen planus very rarely involved the hair follicles, but in this case it did.

DR. ROSEN said the patient had received two injections of salvarsan intravenously, which improved the eruption considerably. She was going to receive another injection the next Monday.

DR. WISE said he could attest to the great improvement from one injection of salvarsan.

DR. ROSEN said this case compared with one of very extensive lichen planus at the Mount Sinai Hospital, in which there had been wonderful improvement under salicylate of mercury injections.

## GENERALIZED PAPULO-NECROTIC TUBERCULID AND ERYTHEMA INDURATUM BAZIN. PRESENTED BY DRS. MACKEE AND ROSEN

The patient, E. R., aged 19, was born in Russia, and presented herself at Dr. Fordyce's clinic with the following history: For the past six years the generalized eruption had existed, new lesions coming, healing and leaving scars. The lesions varied in size from that of a split pea to that of a small bean. They might be seen in all stages of development. Many of them were covered with depressed crusts. Scattered over the entire body were numerous depressed scars. On the lower extremities the lesions were of a different character, large, infiltrated nodules, typical of erythema induratum (Bazin).

## HYPERTRICHOSIS. PRESENTED BY DR. GEYSER

The patients were two adult women. The speaker expressed the opinion that coarse hairs were very much more permanently, easily and quickly removed than fine ones. One of the patients grew a fine, downy hair all over the face, to one-half inch in length, which made her life miserable and unbearable. She had had treatment with the galvanic needle without any result. The other patient's hair had been gone for nine weeks and the only recurrence had been a few hairs on the upper lip and margin of the neck, where the tube did not strike the face. The first patient started to use pumice-stone, but the more it was used, the more the hair would grow. She then used the electric needle, but this treatment was too expensive. After this she used some depilatories and then tried to depilate the hairs herself, using a galvanic battery, which did not do the work. She came, on October 1, to see the speaker, and on November 9, the entire face had been cleared.

DISCUSSION

DR. WALLHAUSER congratulated Dr. Geyser on the very good results and asked if this method could possibly produce permanent results.

DR. MACKEE said that he would have to see the cases at the end of a year before he could conscientiously congratulate Dr. Geyser. There had been a depilation as a result of the treatment and if the treatment were continued over a sufficiently long period there would be a permanent alopecia. In other words, it was necessary, in order to prevent the further growth of hair, to effect a permanent atrophy of the hair bulbs. This, naturally, would be followed by a shrinking or complete disappearance of the hair follicles and might be accompanied by an atrophy of the sebaceous glands and of the arrectores, a flattening out of the papillae as a result of the retarding of cellular activity in the basal layer of the epidermis and, also, atrophic changes in the connective tissue, vascular apparatus, coil glands, etc. These changes were likely to produce more or less visible wrinkling of the skin which might not be noticed until after the lapse of many months.

In one of the patients there had been a slight erythema. This caused the speaker to remark that even a very slight, transient erythema might be followed in a year or two by a marked and disfiguring telangiectasia. The speaker was cognizant of the fact that a permanent alopecia could be effected without subsequent roentgen-ray sequelae, but the risk was so great that he felt that the treatment was not justified in a condition like hypertrichosis, which was looked on as a cosmetic defect rather than a disease, unless the case was indeed, very exceptional. Even in unusually severe cases, or when electrolysis was a failure, or when the patient was going insane, the speaker would advise against the institution of roentgenization unless the difficulties, dangers and possibilities were explained to the family in the presence of the patient and the family physician, or a consultant. Even such a procedure would not legally prevent the institution of a suit for malpractice in case of an untoward result.

DR. GOTTHEIL agreed with Dr. MacKee and said he would like to know Dr. Geyser's reasons for taking this stand. If he recalled it correctly, Dr. Geyser had previously said that roentgen-ray treatment for this condition was inadvisable and that he must have had, therefore, some good reason for changing his mind.

DR. GEYSER said he agreed with everything Dr. MacKee had said, except when he laid stress on the atrophy of the hair muscles. Those muscles were there before the hairs on those patients' faces and they did not show then, and there was no reason why they should show so markedly afterwards. It did not make any particular difference because he said a certain thing was dangerous, everything was dangerous. Every drug may be dangerous, but the oftener and longer one used it, the greater the experience and results. There was every reason for changing an opinion, and he had shown case after case at this Society and every one of them showed good results.

DR. GOTTHEIL said that Dr. Geyser must have had some additional experience which made him revise his opinion.

DR. GEYSER said the whole secret lay in screening the dose—simply screening sufficiently with aluminum, giving the patient two or three treatments with 2 or 3 milliamperes of current, and if one saw a reaction that came too soon, or no reaction at all, one would not expect to use 5 milliamperes. Only when one could see absolutely no reaction, that was the dose; and if the case were screened more than that, there would be no result, and if less, a dermatitis. If one once obtained the result, the same remarks that applied in hypertrichosis would apply in any other lesion, so far as the sound skin was concerned.

DR. MACKEE said that what Dr. Geyser stated regarding the danger of roentgen-ray sequelae in conditions other than hypertrichosis was true only to a certain extent. The total dosage required to cause the disappearance of the

lesions in the ordinary case of acne, psoriasis, eczema, lichen planus, tinea tonsurans, granuloma annularis, verruca vulgaris, etc., was too small to produce atrophy of any of the anatomic elements. Furthermore, it was not necessary to provoke roentgen-ray erythema in such diseases so that there was no danger of a subsequent telangiectasia. In the more serious and recalcitrant affections, such as epithelioma, tuberculosis, keloid, etc., it was often necessary and justifiable to risk roentgen-ray complications and sequelae in order to effect a cure. The point that the speaker wished emphasized and the one that Dr. Geyser seemed to have overlooked, was that in order to produce a permanent alopecia, a total quantity of ray sufficient to cause a permanent disappearance of the hair follicles would have to be administered, and that this amount of ray administered to the skin for any purpose, was likely to produce visible wrinkling and even telangiectasia. In hypertrichosis, a large portion if not all of the face would be subjected to such possibilities, and in view of the fact that the condition was one of purely cosmetic importance, the speaker repeated that one was not justified in employing the treatment excepting under circumstances already mentioned.

The speaker said that his conception of the value and use of the filter was somewhat different from that held by Dr. Geyser. The roentgen ray from any tube was heterogeneous. That was to say, that there were "soft," "medium" and "hard" rays. The very "soft" rays exerted their maximum effect on the epidermis and, therefore, were valueless and even injurious in the treatment of hypertrichosis. A filter prevented the passage of such rays and, therefore, a filter could be used to advantage for this purpose. Nevertheless, an erythema could be produced by a filtered ray, and even with such a ray it was still necessary to cause a complete atrophy of the hair follicles before the alopecia would be permanent, and this might be followed by visible atrophy, as in the case of the unfiltered ray and for the same reasons. The speaker was not arguing on theoretical grounds—he had seen many untoward results follow the use of a filtered ray.

## ACRODERMATITIS ATROPHICANS AND SCLERODERMA. PRESENTED BY DR. OCHS

The patient was a woman, aged 50, who had been presented before the Society three years previously. She showed lesions of acrodermatitis atrophicans on both legs, of five years' duration and a well-defined patch of scleroderma on the left breast, of one and one-half years' duration. She had an ulceration of the right leg, which was due to an injury to that leg and had no bearing on the acrodermatitis.

## LUPUS ERYTHEMATOSUS DISSEMINATUS. PRESENTED BY DR. OCHS

The patient was a male adult, who showed several foci of lupus erythematosus disseminatus on the face and scalp. There were no lesions on the extremities or on the body. The duration of the disease was only six weeks and he was presented to show the rapidity of the progress of the disease. Altogether there were about one dozen foci, varying from pinhead-sized to quarter-dollar-sized lesions.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. WEISS

The patient was a male adult who showed lesions on both legs with minute telangiectases and so-called cayenne pepper spots. Some of them were rather grouped and annular, and some of them had atrophic centers. The patient had moderately varicose veins, which the speaker thought had no influence on the lesions. He would make a tentative diagnosis of purpura annularis telangiectodes.

### DISCUSSION

DR. GOTTHEIL regarded the case as one of varicose eczema with purpura.

DR. PISKO said he was surprised that the remark had been made about this condition being so uncommon.

DR. OULMANN said that while Dr. Gottheil was right, many of such cases existed, as he thought, not only on the legs, but elsewhere. They had lately been described as purpura annularis telangiectodes. Cases that were regarded as chronic varicose eczema as well as those connected with that condition, belonged to the disease described by Majocchi.

DR. SATENSTEIN said there had never been any history of dermatitis, and the man had no evidence of dermatitis. The history showed that the lesions began as small, punctate spots on the lower third of the leg and gradually spread; those in the center disappearing, being replaced by pigment. He said the microscopic picture was entirely different from that of angioma serpiginosum, as described by Dr. Pollitzer in the case reported by Dr. Wise.

DR. MACKEE said that although this case presented unusual symptoms he could not identify it as one of purpura annularis telangiectodes. The case was not a purpura in the ordinary sense. There were vascular changes evidenced by the clinical telangiectatic puncta and by the thickened vascular walls found under the microscope. The hemorrhage was accidental and secondary. Furthermore, from a clinical standpoint, the condition was apparently secondary to a varicose eczema.

Purpura annularis telangiectodes was a definite clinical entity occurring in repeated attacks, the total period consumed in the evolution and involution of each outbreak being from two to six months. It was distinctly a primary eruption, not following varicose veins, eczema or any other condition. It affected the legs mostly, but often involved the thighs, trunk and arms. The lesions were annular and composed of a margin of bright-red, telangiectatic puncta, enclosing a yellowish-brown center with or without atrophy. Histologically there was a numerical increase in vessels, a panarteritis, a moderate infiltration, hemorrhages, hyaline degeneration and complete destruction of the vessels. The speaker said that while Dr. Weiss' case showed many features common to Majocchi's purpura, it was not sufficiently typical, either clinically or histologically, to be designated as purpura annularis telangiectodes.

DR. WISE said he would agree with Dr. Gottheil that they often saw this type of vascular dilatation and dermatitis on the legs, but he had seen no mention of any condition like that in textbooks or monographs, unless related to Majocchi's disease. The question was, had he overlooked these cases and considered them a sequel to chronic eczema and dermatitis or was it an entity, similar to purpura annularis telangiectodes?

DR. WEISS said he had very little to add to Dr. MacKee's histologic picture and thought it most probably a case of Majocchi's disease, which had not progressed far enough to give the classic picture as Majocchi had described it. Clinically, they had a certain gradual onset and minute telangiectatic spots, so-called cayenne pepper spots. Some of the lesions were rather inclined to form rings and were atrophic in the center. The patient never had a dermatitis and while the eruption might not be typical, it needed further study, and he would work out the case somewhat more broadly and report it later on.

## ERYTHEMA PERSTANS. PRESENTED BY DR. WEISS

The patient was a young man, who showed lesions of erythema perstans, which were hyperemic and reddened about two months previously, but were now paling. These were fading away, showing a deep brown pigmentation due to slight hemorrhages. The lesions appeared on the chest, back, thighs and scrotum. Their appearance was inclined to be seasonal.

### DISCUSSION

DR. GOTTHEIL said he saw an eruption occasionally called hemorrhagic urticaria which left large areas of pigmentation and which were similar to Dr. Weiss' case.

DR. OULMANN asked if the patient had ever taken quinin.

DR. WEISS said that Dr. Fordyce had suspected the ingestion of quinin but this was two years ago. No quinin was taken since then. The speaker could not make out the etiology satisfactorily. The patient was anemic, and said that his stomach gave him trouble and his eruption occurred mostly when his stomach was out of condition. He also accused the seasons, saying it came out in the winter more than in the summer. The speaker said the etiology in this case had not been cleared up as yet.

### REPORT OF NODULAR AND ULCERATIVE LEPROSY TREATED WITH SALVARSAN. PRESENTED BY DR. GOTTHEIL

The patient, an adult woman with lesions of nodular and ulcerative leprosy, wanted the speaker to treat her with some German salvarsan. Relatives of the patient had stated that when she first came to this country she had received an injection on shipboard. Although she was tuberculous she had passed the immigration inspectors. The speaker supposed that all of the gentlemen had tried salvarsan in leprosy. She received 0.6 gm. of salvarsan and her improvement was marvelous. Many of the nodules flattened out and the ulceration and whole psychic condition was improved. She left the hospital since that time and had received 0.9 gm. with still further improvement. The woman's Wassermann reaction was negative.

DISCUSSION

DR. OULMANN said he applied salvarsan in leprosy at the time salvarsan was new, to study the action on the Wassermann findings. He did not observe any influence on the Wassermann reaction nor on the skin lesions.

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## PHILADELPHIA DERMATOLOGICAL SOCIETY

*Regular Meetings, Jan. 15, Feb. 19, and March 19, 1917*

HENRY K. GASKILL, M.D., *Chairman*

### PARAFFINOMA. PRESENTED BY DR. GASKILL

The patient was a white woman, aged 30 years. At the age of 14, the bridge of her nose was raised by a subcutaneous injection of paraffin. For ten years there were no symptoms, then the trouble appeared as a reddened, firm, fibrous elevation at the site of the injection. There was marked rosacea with scaliness and enlarged capillaries. The patient thought the condition was made worse by the pressure of her glasses, the nose-piece of which rested just above the mass. The speaker first saw the patient in April, 1916. The nose was larger and redder at that time. The Roentgen-ray and high-frequency treatment had been used with benefit. At home, lotio alba was applied. Lighter and different type spectacles were to be worn. It was a question whether the whole condition had not been brought about by the pressure on the bridge of her nose.

DR. SCHAMBERG had seen a very similar case which seemed improved by the galvanic current and incandescent bulb. It was possibly helped by the heat rays of the latter. The skin was markedly rosaceous and there was more pronounced subcutaneous fibrosis than in this case. It also came on some years after the paraffin injection.

### CASE FOR DIAGNOSIS. PRESENTED BY DR. STELWAGON

The patient, a white man aged 25 years, was a stenographer by occupation. The disease of the nails had existed two months, beginning on the right index finger and successively affecting the nails of nearly all the other fingers and

toes. The nails were undermined, loosened and partly lifted from the nail-bed. There was no indication of psoriasis on the general body surface. Scrapings had been negative for tinea. There had been no interference with nutrition nor heaping-up of debris and the lamellæ were not separated, as in psoriasis.

DISCUSSION

DR. GASKILL had seen two similar cases, one in this country and one in Vienna.

DR. SCHAMBERG had such a case, now nearly well. The treatment was calomel ointment, 20 grains to the ounce.

DR. STELWAGON was of the opinion that the Roentgen-ray helped these cases as well as soaking in antiseptic solutions. The etiology, it was agreed by several members, was frequently hard to determine.

POLYCYTHEMIA WITH GENERAL PIGMENTATION. PRESENTED BY DR. SCHAMBERG

A white man, aged 57 years. This patient and the two following cases were from the wards of the Philadelphia General Hospital. The eruption was practically universal. It consisted of a generalized, scaly, eczematoid outbreak, the most striking feature being a marked pigmentation. Although the patient gave a history of an attack of eczema several years ago there was no pigmentation until the past year. Furthermore there was associated here a polycythemia, the red corpuscles at different times giving counts of 6,680,000, 6,210,000, 5,470,000. There was no cyanosis here but a true pigmentation. There was a curious bluish look by artificial light, almost suggesting argyria.

PSORIASIS. PRESENTED BY DR. SCHAMBERG

Negro, man, aged 47 years. This patient presented a typical psoriatic outbreak of twenty years' duration. The scalp was nearly covered, the palms were extensively involved and there were numerous circinate and gyrate, sharply marginated, scaly patches on the trunk and extremities.

DISCUSSION

DRS. STELWAGON AND KNOWLES agreed with the speaker that such a case in an apparently full-blooded negro was quite uncommon. The former added that keratoses and epitheliomas of the skin were also almost unknown in that race.

CASE FOR DIAGNOSIS. PRESENTED BY DR. SCHAMBERG

The patient was a moderately dark negro woman, 26 years of age. She showed in both axillae and adjacent areas extensive, thickened, slightly elevated, inflammatory patches. They were sharply marginated and tended to vesiculation on the borders, with, in places, secondary pus infection. There were a number of scars on her body. One of these on her leg resembled a syphilitic cicatrix. Her Wassermann reaction was negative. From her groins large patches extended down the inner side of each thigh for about 15 cm. They were similar in appearance to those in her axillae. The patient's history was vague and unsatisfactory. She said the eruption relapsed. This attack had lasted a year. The upper lip was swollen and a severe rhinitis was present. The lesions will be examined for mycotic forms and a biopsy will be made.

SECONDARY SYPHILIS. PRESENTED BY DR. GASKILL

A negro boy, aged 19 years. He was a patient in the Philadelphia General Hospital. A chancre appeared three months ago; the eruption was of six weeks' duration. He exhibited an adundant generalized eruption, favoring particularly the face, back and extensor surfaces of the arms. The type of

lesion was the small pustular syphilid throughout, drying up and healing uniformly with pitted scars. The whole picture was quite suggestive of variola.

BULLOUS DERMATITIS. PRESENTED BY DR. SCHAMBERG

Patient was a white girl, aged 8 years. This condition had existed five years. The patient presented a crusted eruption on the nose, cheeks and lips. A few drying bullæ were visible. It was a bullous eruption which appeared in crops on the face, hands and lower arms. There was scarring on the backs of the hands. The finger nails were not affected. The speaker did not think this a case of epidermolysis bullosa, regarding its onset as too late for that disease. Considering that it appeared a year after vaccination it seemed unlikely that it was the bullous eruption following vaccination. Fowler's solution improved it but it had returned. It was worse in hot weather and unfavorably affected by direct sunlight. The eruption appeared only on uncovered areas.

DISCUSSION

DR. STELWAGON considered the case to be one of hydroa vacciniforme.

DR. SCHAMBERG felt that it was allied to pemphigus.

EPIDERMOLYSIS BULLOSA. PRESENTED BY DR. GASKILL

A white girl, aged 14 months. Since two days of age she had had recurring bleb formation on her feet and hands. Some appeared under the toenails. The patient's mother had had the same type of eruption on her feet, hands and chin. While not so common as formerly they had appeared recently when she worked hard or wore tight shoes. No other member of the family had had the disease.

SCLERODERMA. PRESENTED BY DR. HIRSCHLER

The patient was a Jewess, aged 36 years. The condition has existed for four years. She was scarcely able to bend her ankles, the skin there being indurated, brawny, brownish and shiny in appearance. Over the knees the skin was at one time similar to that described, but the latter joints were no longer hide-bound. The disease, having undergone atrophy in those areas, exhibited only retrogressive changes.

LICHEN PLANUS VERRUCOSUS. PRESENTED BY DR. SCHAMBERG

The patient was a mulatto, aged 37 years. He was born in Cuba. At the age of 8 years a small patch appeared on the left leg, had never disappeared and existed as a large area of verrucous nodules on the outer side of the same leg and thigh. The Wassermann reaction was 4 plus but the speaker felt that syphilis did not enter into this condition, which he regarded as verrucous lichen planus. Individual outlying lesions somewhat resembled prurigo nodularis. A biopsy will be made.

DR. WALTER W. KING, Surgeon U. S. P. H. S., in charge of the Research Department of Tropical Diseases, San Juan, P. R., was a guest at the meeting. At its close he showed photographs of mycelial infections of vaccination sores and growths on culture media, from various of his fungus cases. Yaws was rather rare on the island, though said to be more common in the British West Indies.

CASE FOR DIAGNOSIS. PRESENTED BY DR. STELWAGON

A white girl, aged 18 years, was a private patient of Dr. Philip Marvel of Atlantic City, who gave her previous medical history. The father died of pulmonary tuberculosis and was known to have had syphilis. The patient developed a pyelitis at the age of 9 years, which, although of a mild type, had persisted. Colon bacilli were constantly present in the urine from the

right kidney. As a child, the patient lacked animation and was somewhat pallid and easily fatigued. At the times when the pyelitis became acute a low, irregular temperature existed. Tubercle bacilli were never definitely determined in the urine, though it was frequently examined for them. One observer reported them but another pathologist felt that the organisms found were smegma bacilli. The von Pirquet reaction was negative, as was also the tuberculin injection. The strength of the latter was not noted. Six or seven years ago, the skin eruption started as a circinate, reddish patch on the forehead, a little below the hair line. It had slowly but steadily spread upward into the scalp and downward over the forehead, nearly to the eyebrows. The border was sharply defined, though broken in a few places, slightly infiltrated and of a reddish color. The enclosed area showed skin of a slightly atrophic and stretched appearance—extremely superficial scarring. Subsequent to this area a patch appeared behind the left ear and still later several infiltrated psoriatic spots appeared on the scalp, in the occipital region. These latter had disappeared and the patch behind the ear was much improved. No other outbreak existed on the body surface. There had been no hair loss, no follicular involvement and the eruption was very superficial throughout. The speaker looked on it as a thin lupoid infiltration—a very superficial lupus vulgaris. Earlier it had a distinct yellowish-red tint, less apparent on presentation. It had spread in spite of local treatment.

ACRODERMATITIS PUSTULOSA HIEMALIS. PRESENTED BY DR. HARTZELL

The patient was a white woman, aged 28. Ill-defined, reddish patches were seen on the fingers of her left hand. These areas had a swollen, dusky, tense look. She had had the condition for the past three winters. Itching was a marked symptom. During the summer her hands were white.

The speaker regarded chilblains as different from frostbite, as many not exposed to cold contracted the former.

LICHEN PLANUS. PRESENTED BY DR. HARTZELL

eral eruption and was exhibited principally for the striking tendency of the lesions to occur in linear form in scratch marks. There were many rounded as well as flat angular papules.

HEALED EPITHELIOMATA (2 CASES). PRESENTED BY DR. PFAHLER

The first patient was a white woman, aged 52 years. Seven years ago an epithelioma developed on the dorsum of her tongue. An excellent result was obtained under roentgen-ray treatment and the scar had shown no tendency to break down since.

The second case was that of a white woman, aged 66 years. A new growth started in the center of an old indurated scar caused by a healed lesion of epithelioma. The patient was exhibited to show the good result obtained both as to the healing of the epithelioma and the softening of the old scar.

LUPUS ERYTHEMATOSUS. PRESENTED BY DR. STELWAGON

A white man, aged 35 years. The duration of this disease was four years for the patch on the cheek, three years on the upper lip and its vermilion. On the left cheek was a markedly inflammatory, thickened area, almost palm-sized. There was a smaller patch behind the left ear. The large patch was quite typical, the central portion pinkish, with thin, whitish scales and redder, well-defined border. The process had been at a standstill for some time and it was suggested that energetic treatment would be advisable—preferably carbon dioxid snow or the Roentgen ray. Under the present treatment it had flattened down appreciably.

## PAPULO-SQUAMOUS DERMATITIS OF INFECTIOUS ORIGIN. PRESENTED BY DR. SCHAMBERG

The patient, a white woman, married, aged 23, five years ago had an attack of tonsillitis which was followed, after a week, by an eruption which developed into an exfoliative dermatitis. It was two months before the condition entirely cleared up. In February, 1917, she had a second attack of tonsillitis and one week later came to the speaker with a generalized, widespread eruption, of one month's duration. It consisted of maculo-papules, from pea to finger-nail in size, all red and inflammatory and many covered with a thin, whitish scale. The trunk, extremities, palms, soles and scalp were seats of the outbreak which grossly somewhat resembled an acute psoriasis. Considerable itching was present.

Dr. Kolmer made blood cultures from this patient, obtaining, under anaerobic conditions, a small micrococcus which in bouillon developed in chains—evidently a streptococcus. Aerobic cultures were invariably sterile. These findings made the case of particular interest in that it followed tonsillitis and made reasonable the supposition that it was a dermatosis following a focal infection. Presumably the organism causing the tonsillitis had entered the circulation and produced this general eruption. The condition was slowly improving under a mild lotion. To expedite matters it was proposed to inject, intravenously, an organic mercurial preparation made at the Polyclinic laboratory.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. GASKILL

The patient, a white man, aged 31, was a horse dealer and the eruption on his body was of six weeks' standing. There were three rather distinct types of eruption. On the scalp, face, trunk and as far down as the upper third of the thighs there existed a quite inflammatory, crusted and vesicular eruption. The lesions were small, scattered and for the most part, drying. In the axillae, flexors of elbows and to some extent in the groins, were numerous small, scaly maculo-papules, somewhat suggestive of psoriasis. The palms showed a condition of keratosis resembling that produced by arsenic, but the patient denied having taken any medicine internally. He had used a sulphur ointment externally.

The lesions were of distinctly purplish color, sharply marginated and were much more numerous in the anterior axillary folds and the flexure of the elbows. Across the back and over the sternum, were some lesions which had become infected from scratching. The speaker said that on a previous occasion he had seen a vesicle where one of these infected lesions was present. The condition extended only as far down as the middle of the thighs. The genitalia were markedly inflamed and edematous.

## TERTIARY SYPHILIS. PRESENTED BY DR. PFAHLER

A white woman, aged 54, had an eruption which began four years ago, as a small lump on her right cheek. This spread and broke down. Later another patch appeared on her left cheek. Elsewhere she was treated with the roentgen ray and she felt that the eruption was unfavorably influenced thereby. Examination revealed an infiltrated area on her right cheek, involving the right side of her nose. There was situated therein an irregular, crescentic arrangement of deep papulo-pustules and nodules. The patch was dark red, some ulceration was present and the whole area slightly larger than a silver dollar. On the left cheek was a smaller patch, nearly circular in outline. This case was a typical tertiary syphilis. This diagnosis was concurred in by those present.

## CASE FOR DIAGNOSIS. PRESENTED BY DR. PFAHLER

The patient, a white woman, aged 45, came under the speaker's care one year ago for the treatment of a scaly, superficial, circinate lesion, about the size of a silver dollar. It was situated on the cheek, just in front of the right ear. Several times, under the speaker's roentgen-ray applications, it had been appar-

ently cured but had each time recurred. No such treatment had been given since October, 1916, as the speaker thought the persistent scaliness might be due to Roentgen-ray dermatitis. The redness of the patch has been present since the beginning—the scaliness mainly since the Roentgen-ray treatments were discontinued. The induration was quite superficial and in places oozing occasionally took place, with subsequent crusting. A mild itching was present.

DR. SCHAMBERG suggested a mild salve in place of further radiation.

PSORIASIS. PRESENTED BY DR. PFAHLER

This patient, a white woman, aged 47, showed a patch of inveterate psoriasis on her left elbow. It was of twenty-two years' duration and the disease had not shown itself elsewhere on the body surface. Since July, 1916, she had had but four roentgen-ray treatments, the dosage varying from 5 to 20 milliampere minutes, filtered through 6 mm. of aluminum. The patch has markedly improved, a change being noted after the first treatment.

GRANULOMA. PRESENTED BY DR. SCHAMBERG

Mulatto man, aged 35, was a quarter-breed Indian. This patient had a throat condition of five years' standing. Starting in the right tonsil, an ulcerating neoplasm had invaded the pharynx, uvula and floor of the mouth. There was marked hyperplasia of tissue. Of eight Wassermann tests attempted, but one was satisfactory and that was negative. The difficulty was due to the patient's blood being anticomplementary. Nevertheless, he was given several injections of arzenobenzol with some improvement in his general health but with no effect on the neoplasm. Injection of excised tissue into a guinea-pig gave negative results for tuberculosis. A biopsy showed a dense round-cell granuloma—no giant cells or other diagnostic features. No organisms had been found in the mass. The patient had gained 7 pounds in three months. No particular change in the lesions had been noted in this time. The neighboring lymph nodes were but slightly enlarged. The lungs gave no evidence of tuberculosis. His only complaint was weakness.

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## MINNESOTA DERMATOLOGICAL SOCIETY

*Regular Meeting, Feb. 13, 1917*

S. E. SWEITZER, M.D., *President*

DERMATITIS HERPETIFORMIS. PRESENTED BY DR. IRVINE

Patient, W. A. S., married, man, aged 40, had had eight children; family history was negative. He had the first attack of his skin trouble eight years ago and had never been entirely free from it since, although at times it had almost disappeared. It did not vary with seasons nor did diet appear to influence it.

The patient was first seen May 25, 1916; at that time there was a general eruption over the trunk, extremities and some on the face. The skin as a whole was red and irritable. The lesions consisted of groups of papulovesicles or papulopustules on an urticarial base; there were periods of extreme itching.

The patient was exhibited especially to show the effect of treatment. From May 25 to July 6 the patient was given six subcutaneous injections of from 30 to 40 c.c. of autogenous serum, also several injections of 150 c.c. of Ringer's solution. There was no apparent effect. In the latter part of July, the patient was given daily injections of sodium cacodylate for a period of ten days with no apparent benefit. Since August, the patient had been given, at weekly intervals, a combination of staphylococcus and streptococcus vaccine. November 2

a tonsillectomy had been performed, and one tonsil contained pus. Within forty-eight hours, itching had ceased and the lesions began to regress until within a few days the eruption had almost disappeared. The teeth had been examined and treated where necessary. During November and December there was a gradual return of lesions but only about half as bad as formerly. January 8 the patient was started on thyroid, 3 grains daily and again a regression of the lesions took place, until February 6 when an examination failed to reveal a single lesion. More recently two or three lesions had appeared. During the eight months the patient had been under treatment, nothing had been done locally; all efforts had been directed toward general conditions, and while there had been many exacerbations their severity had continued to decrease.

FAVUS. PRESENTED BY DR. IRVINE

The patient, A. L., aged 14 years, had the disease eleven years; two sisters were also infected. The boy was born in this country and came to Minneapolis a few weeks ago from Michigan. The scalp showed irregular sized and shaped areas of atrophic baldness with here and there clumps of hairs in the scars. Over a large part of the scalp there were patches of infected hair with typical scutula. A specimen demonstrating the fungus was shown under the microscope. The patient was being treated with the roentgen rays to epilate.

SYPHILITIC EPIDIDYMITIS. PRESENTED BY DR. OLSON

This patient, a man, aged 28, had had an untreated syphilis for one and one-half years. He showed mucous patches in the mouth, very large epitrochlear and postauricular glands, and complained of severe headache. A large, practically painless swelling, the size of a small orange was present on the scrotum on the left side, and was found to involve largely the epididymis. The patient showed no discharge and stated that he had never had gonorrhea. The speaker stated that he had seen two similar cases in Berlin, in 1913.

DISCUSSION

DR. WRIGHT stated this patient showed a different form of syphilitic epididymitis from the two cases that he had recently reported. Recently he had had a third case of this kind under his care. His cases occurred late in the course of syphilis and had appeared simply as ordinary hydroceles in which the syphilitic enlarged epididymis could be felt. The hydrocele and the enlarged epididymis disappeared under specific treatment.

EPIDERMOPHYTOSIS. PRESENTED BY DR. COOK

The hands and forearms only of this patient, a young lady, were involved. The fingers and palms showed large vesicles and about the wrist there was a tendency towards a circinate form. Fungus examination had not been made but all were agreed that it was a typical clinical case of epidermophytosis.

SARCOID OF BOECK. PRESENTED BY DR. SWEITZER

Miss A., aged 33. The disease began on the face seven years ago as a lump under the skin, gradually involving the skin. The lesion on the right cheek was 5 by 7 cm., hard, red and elevated above the level of the skin. It felt soft to the touch, and had numerous dilated capillaries running over it. It paled considerably on pressure. A similar lesion, measuring 1½ by 4 cm. was present on the left eyebrow. A subcutaneous nodule could be felt above the right elbow and one in the left axillary fold. The skin on these lesions was not involved.

Biopsy showed typical epithelial bundles, a few giant cells, etc., corresponding exactly to the pathology of sarcoid of Boeck.

# Book Reviews

DIE TUBERKULOSE DER HAUT (TUBERCULOSIS OF THE SKIN). By F. LEWANDOWSKY, Hamburg. Enzyklopaedie der klinischen Medizin. Published by *Julius Springer, Berlin,* 1916. 330 pages.

In 1906, Jadassohn wrote his exhaustive monograph on cutaneous tuberculosis for Mracek's Handbook. Since that time no publication approaching this in completeness had appeared until Lewandowsky produced the volume now under review. This comprises the "chapter" on cutaneous tuberculosis, in the special section devoted to tuberculosis, of the Encyclopedia of Clinical Medicine edited by Langstein, von Noorden, von Pirquet, and Schittenhelm.

While Lewandowsky modestly denies any desire to surpass the masterly monograph of Jadassohn, his book will not suffer by comparison with that of his distinguished teacher, and possesses the added merit of being abreast of the times. During the past decade much has been developed in the field of immunity, and Lewandowsky has given considerable space to the discussion of immunity in its relation to the pathogenesis of cutaneous tuberculosis. About one-fourth of the book is concerned with the questions of etiology and pathogenesis, which are discussed most thoroughly from the standpoint of recent advances in the field of immunity. This part of the book in itself constitutes a formidable monograph and deserves special commendation, much of the experimental work, notably on the tuberculids, being original with the author.

The special or clinical part is a well arranged, comprehensive and critical presentation of the clinical aspects of cutaneous tuberculosis. The section dealing with the exanthematic forms (miliary tuberculosis, lichen scrofulosorum, papulo-necrotic tuberculids, erythema induratum, Boeck's sarcoids, angiolupoid) deserves special mention. Lichen nitidus and lupus erythematosus are included among the diseases of uncertain tuberculous etiology, which are embodied in a lengthy chapter, well written, in a critical vein.

The therapeutic section comprises about fifty pages and is an admirable review of the subject. The methods of treatment best adapted to the individual case are set forth in detail and given their proper value. Roentgen rays and radium are given prominence in the treatment of cutaneous and mucous membrane lupus, often combined with excision, and tuberculin is advised for the tuberculids. In the deeper forms of lupus erythematosus carbon dioxid snow is advocated.

The illustrations are numerous and well chosen, as the author had the privilege of selecting from the large collections of Jadassohn and Arning. Six photomicrographs and numerous excellent histologic sketches, many of them in colors, are included. The Lassar, Neisser and Hamburg moulage collections are represented by twelve well executed colored plates.

An extensive bibliography, which does not as usual entirely disregard our American literature, completes a book which reflects great credit on its author and will for many years remain authoritative in its special field.

O. H. F.

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